'THE FOREST COOKS AND THE PEOPLE EAT': NATURE AND SOCIETY IN MAYURBHANJ, ORISSA

HANNELE YLÖNEN

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DECLARATION

I have composed this thesis myself on the basis of my own work.

Hannele Ylönen
March 2000

ABSTRACT

I investigate the range of different agents' explicit and implicit views about the forest and forest practices to see what makes the forest such an important resource in Mayurbhanj District in Orissa, India. There are two main lines of inquiry in this dissertation. I aim to shed light on the social construction of forest practices and livelihoods in relation to sustainability, and how nature–culture, forest–village, object–subject, other–self and local knowledge–Western scientific knowledge are constructed, accounted for and represented. I analyse the *junglewala*'s (forest-dwellers') and foresters' views of forest practices and each other. I begin with concrete, material forest practices, and gradually move towards analysing their conceptual forms.

The main questions the dissertation investigates are why and how many state forest practices have been so detrimental to the *junglewala*'s livelihood sustainability despite over a century of declared attempts in Mayurbhanj. To do this I investigate several counterpositions: conflicts and trade-offs between different forest uses, and mismatches of worldviews and cosmovision models. In order to answer these questions and to understand these counterpositions, I investigate villagers' and state forest practices, forest knowledges, and make a symbolic interpretation of worldviews and cosmovision models, which consist of natural, human and cosmic spheres. I examine what forest practices mean in Mayurbhanj with a three-pronged approach combining actor-oriented, case-study and symbolic approaches.

The work is arranged in three main parts. Part I is **Background**. It has two sections and provides an overall introduction and guiding the reader to the rest of the dissertation. In the first section I introduce concepts, contexts and questions to be addressed in the dissertation. I criticise the privilege awarded to Western scientific knowledge to translate cultures without realising its own ethnoepistemology and -ontology in these translations and comparisons. Instead of reducing alternatives to the dualist ordering of thought consisting of dichotomies and binary oppositions of the logical form 'A **or** not-A' (nature ≠ culture), I aim to go within and beyond several dichotomies to show their interrelatedness. These dichotomies are social constructions and indicative of a hierarchical and derivational cultural model (Gudeman 1986; Lakoff and Turner 1989: 167, 208). I aim to understand forest practices with a 'relationist' subject (knower)–subject (known) conception of knowledge. In the second section I introduce sites, settings, material and methods of the fieldwork (interviews, questionnaires, library research, participant observation). I did one year of fieldwork (January 1997–January 1998) mostly in the case-study villages, Burupal and Mopani, and in Baripada in Mayurbhanj. In Part II, **Forest practices: sociopolitical context of villagers' and state forest practices**, I analyse forest practices, knowledges, livelihoods and their representations. I integrate the analysis of institutional power-

knowledge with the analysis of everyday practices. I analyse how various forest practices support or threaten *junglewala*'s livelihood sustainability. I analyse case studies of Burupal and Mopani villages, the Budhikhamari Joint Forest Protection Committee (BJFPC), and *jhahiras* (sacred groves) and the *akhand sikar* (group hunting). In Part III, **Forest practices: *Hor* and*Diku* symbolism**, I investigate cognitive and symbolic dimensions of forest practices and humans as meaning-makers. I investigate how the *junglewala* and foresters conceive the forest, and what kind of worldviews and cosmovision models their forest practices and knowledges reveal. In the end, I sum up the principal findings.

Overall, this dissertation will show in a variety of ways how the existing dichotomies and hierarchies of forest practices and knowledges have detrimental influence on matching forest practices and livelihood sustainability. My aim is not to moralise about these counterpositions and these questions, but to challenge them. This dissertation is part of the process of decolonising anthropology, and challenging the universal validation of Western theories of modernisation, capitalism, socialism, feminism, environmentalism, forestry and knowledge (Said 1978, 1994; Moore 1996). The decolonisation of anthropology requires that all communities are regarded as producers of cultural knowledge. The decolonisation of the mind means that these cultural knowledges do not have to be dualist, linear or confirm Western scientific cosmovision model in order to be valid and valued.

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Abbreviations and acronyms

:	is to ...
::	as ...
BJFPC	Budhikhamari Joint Forest Protection Committee
CFM	Community forest management
CFT	Cubic feet
DBH	Diameter at breast height
DFO	District Forest Officer
DIPS	Documentation of Information and Processing Syndicate (NGO)
DRDA	District Rural Developmen Agency
DRF	Demarcated reserve forest
FD	Forest Department, *jungle bibhagia*
FPC	Forest Protection Committee, *jungle surakhya samiti*
GOI	Government of India
GOO	Government of Orissa
IBRAD	Indian Institute of Bio-Social Research and Development (NGO)
IFS	Indian Forest Service
JFM	Joint Forest Management, *jugma jungle parichalana samiti*
MASS	Mayurbhanj Swechha-Sevi Samukhya (NGO)
MFP	Minor Forest Product
MOU	Memorandum of understanding, which a VSS signs
NGO	Non-governmental organisation, *ana sarakari sangathan*
NTFP	Non Timber Forest Produce, *ana kastha jungle drabya*
NWFP	Non Wood Forest Produce
OFDC	Orissa Forest Development Corporation
PF	Protected Forests
PRA	Participatory Rural Appraisal
PRAVA	Professional Assistance for Voluntary Action (NGO)
PRF	Protected reserved forest
RF	Reserved Forests
Rs.	Rupees (Rs. 36 per dollar in 1997)
SC	Scheduled Caste, *dalit, harijan*
ST	Scheduled Tribe, *adivasi*
STR	Simlipal Tiger Reserve
UDPF	Undemarcated protected forest
VFPC	Village Forest Protection Committee; *gramya jungala surakhya samiti*
VSS	*Vana Samrakshana Samiti*, a JFM committee

PART I: BACKGROUND

Chapter 1. Overview of the relevant literature

Introduction

This introduction has two main purposes. First, I contextualise the research within a larger disciplinary framework and signal how I intend this work to be considered. Although this research is mainly anthropological, a multidisciplinary approach incorporating ethnobotany, ethnoforestry, ethnomedicine and development studies helps to understand forest practices. I situate my ethnographic reflections within some of the theoretical debates in anthropology. Secondly, I identify the main focus, research problem and interpretive challenge of the research. I analyse some of the diverse ways in which agents relate to the forest as expressed in their forest practices, classifications and use (subsistence, medicine, food), rituals, oral literature and folklore. These performances represent down-to-earth expressions of cosmovision models. I hope to shed a little light on the possibilities and constraints of matching forest practices and livelihood sustainability in Mayurbhanj. I investigate three kinds of counterpositions: conflicts of material interests, trade-offs of forest use, and mismatches of conceptions, meanings, worldviews and cosmovision models. I explore the following relational hypothesis: despite the declared Joint Forest Management (hereafter abbreviated 'JFM') policy (1988), an Indian version of participatory forestry, because of conflicts, trade-offs and mismatches between state forest practices (administrative structures, laws, policies and practices of the Forest Department that regulate access and use rights to flora and fauna) and villagers' forest practices (*jhahiras, akhand sikar*, herbalism, multiple use of forest produce), livelihood sustainability remains a problem in Mayurbhanj.

Forest practices take place in physical and cultural landscapes, neither of them being stable. Forest practices include a variety of activities: industrial timber production, wildlife conservation, small-scale informal extraction, small-scale clearing for agriculture and large-scale clearing for roads and dams. Forest practices combine the forest, forestry and livelihood strategies. The forest is a natural, social and cosmic (or supernatural) resource. The forest as a natural resource refers to its material utilitarian possibilities and, for deep-ecologists, to a natural, original wilderness forest. The forest as a social resource refers, on the one hand, to human-made forests: forests as managed, enriched, artificial and cultivated resources (plantation), and on the other hand, people may give forests anthropomorphic attributes or social properties. The forest as a cosmic resource refers to the features and processes of forests that provide part of the inspiration or repertoire by which people imagine and portray cosmic (extraterrestrial, belonging to the universe) or supernatural (extraordinary, transcending the powers of the ordinary course of nature) entities. For instance, the *junglewala* believe in (supernatural) powers of the forest in sacred groves, and aim to manipulate unseen forces through sacrifice, ritual or spell. The hierarchy of species (flora and fauna), forest types and forests as natural,

sociocultural and cosmic resources parallels the social hierarchy between humans and their social organisations. Plants provide a visible symbol of human societies.

The term forestry may mean a land use type, an activity (commercially oriented), a livelihood strategy (subsistence-oriented), a way of life of the forest-dwellers (direct forest dependency), a science, or a political-economic system for resource control (Peluso 1992: 237). Forestry can be practised as a large-scale production of raw material for high-technology forest products industries, or as a small-scale rural-based activity, providing fuel, food and fodder for rural dwellers. These two approaches have different effects on economic structure, welfare and social factors. Livelihood strategies of forest-dependent agents involve forest access and use rights, and the possibility of collecting, processing, marketing and selling forest produce. Chambers (1986: 7, 1) emphasises 'sustainable livelihood security', access to resources and income-earning activities to meet the basic needs that enable causal connections to be made between development, environment and livelihood. Chambers argues for putting the materially poor first in development planning. Forms of control over the means of production (land, labour, instruments, knowledge or skill) have excluded many people from the 'means of livelihood' (Narotzky 1997: 32, 40) and earning their livelihood legally. In Mayurbhanj, the economy is mainly biomass-based: livelihoods rely on many forest produce. Forestry needs to involve multiple natural, sociocultural, political resources and processes, and not to be merely timber-oriented and threaten sustainability. I shall shed a little light on what kind of forest practices enable the *junglewala* to gain their livelihood as well as have forests.

Although not as strong as the Chipko movement in the north-western Himalayas (Guha 1989), there is some struggle to protect the forest in Mayurbhanj and Chotanagpur region.[1] The different strengths of the struggle are related to different scales of threats; the Chipko movement responded to the imminent threat of large-scale clear-felling, and in Mayurbhanj tree-felling is not as imminent nor as large-scale. People are not hugging the trees, but in the hill and plains areas the *junglewala* protect certain species and *jhahiras* informally, and in the plains there were several Forest Protection Committees (*jungle surakhya samitis*; hereafter abbreviated 'FPCs') already before the official JFM policy. JFM attempts to develop co-operation and partnership between the Forest Department and villagers, to share the responsibilities and benefits of forest protection, to regenerate and reforest degraded forest lands and alleviate rural poverty. In JFM the government retains the legal ownership of land, and shares with villagers the usufruct and the management of the resources. Even if 36 per cent of Orissa is designated as state forest land, much of the forest is degraded, with scattered trees and coppicing rootstock providing possibilities for restoration. These possibilities, combined with the 1988 JFM policy encouraging people's participation, and claiming to bring state and villagers' forest practices closer together, could support sustainability. My aim is to understand and

[1] Guha (1989) regards the emergence of the Chipko movement as a response to three interrelated factors: the demand for villagers' access to forests, the limits of scientific forestry and the nature of the state–peasant relationship, and the fragmentation of the village community as a result of commercial activities.

interpret bargaining, compromising, negotiating, the-give-and-take between state and villagers' forest practices, and shed light on the constraints and possibilities of their *rapprochement*.

Livelihoods, as local socioeconomic objectives, include the maintenance of local culture, local control of resources required to maintain and improve the way of life, and expanded opportunities to participate in a regional cash economy. First, there are several conflicts related to livelihoods: restrictions on grazing, hunting and collecting non-timber forest produce (hereafter abbreviated 'NTFP'),[2] prohibition on picking *sal* leaves (Appendix 6: Glossary of vernacular and botanical names of forest species), the threat of closing the stone quarry, resettlement from the Simlipal Biosphere Reserve (rather than participatory forestry), and conflicts over who decides how to shape the forest landscape, for instance, which areas to forest and with which species. Conflicts may also arise when two groups or villages want to use the same resource for similar purposes, or between two groups with different objectives, such as environmentalists' interest in the long-term forest conservation, and businessmen's interest in extracting the short-term financial gain from marketable species. Conflicts between competing forest uses through time arise from the inconsistency between short-term (individual) and long-term (commu nal) interests, and the fact that the costs and benefits of conservation are not shared equally among the different sections of a society.

Secondly, trade-offs that all agents have to make between alternative uses. A trade-off is 'the process of balancing conflicting objectives', which cannot be achieved simultaneously, such as monoculture plantations or commercial pesticides that deteriorate biodiversity (Grimble *et al.* 1994: 8). The likelihood and intensity of conflicts and trade-offs increase with decreasing resources.

Despite over a century of declared attempts and efforts by the Forest Department to manage forests in the interest of the people, forests have deteriorated and people's livelihoods become more scarce. This has led to migration and urbanisation that accelerate deforestation and environmental problems. To understand why things are going this way in the villages, I aim to shed a little light on the extent to which the current forest practices support, contradict or threaten *junglewala*'s livelihoods, and the extent to which matchmaking them as sustainability is possible in Mayurbhanj. I also hope to provide information about the constraints on and possibilities involved in *junglewala*'s forest practices, knowledges[3], worldviews and cosmovision model that support (geographical, biological, ecological, sociocultural, economic and long-term) sustainability.

Literature on the *adivasis*, environment and policy

There is abundant literature on the *adivasis* (original inhabitants), environment and policy studies, which I classify here as historical, anthropological, sociological, ecological, wildlife accounts and policy research. Literature tends to be either local or national studies, and relatively few make links between local and national contexts. The earliest written historical accounts of the *junglewala*

[2] The term NTFP refers to flora and fauna, all goods of biological origin excluding timber, and ecological services (Murty 1994; Lal 1996: 111).

[3] I use the term knowledges (in the plural) to emphasise different types and levels of knowledge: knowledge of different agents, and basic core, shared, and specialised forest knowledges among the members of the same community.

and forest practices are in sacred texts and Indian epics, followed by accounts of travellers, the East India Company, the British administration, the Indian administration, and research. Individual officers of the East India Company started collecting information on population, economy, land, agriculture and history after the acquisition of new territories. Later this was institutionalised in the writing of gazetteers, censuses, surveys and reports on various topics. Colonial ethnography focused on racial classification (Buchanan-Hamilton 1838) and on tribal societies (Bose 1928; Elwin 1994; Fürer-Haimendorf 1982). After independence, the pan-Indian Anthropological Survey of India and the tribal research centres established in the different states are continuing this work (Cohn 1987). The colonial practice is alive in their evolutionist and functionalist literature. They use pre-printed questionnaires, quantitative survey and short fieldwork and lack in-depth ethnography. The Anthropological Survey of India has a project studying all the communities in India since 1985 (Singh 1994). It has conflicting interests that emerge out of the dual role of administrator (governing the *adivasis* and *dalits* or untouchables, disadvantaged section of the society due to caste hierarchies) and scholar (researching them) (Morris 1991: 524). Asad (1973) and Padel (1995) have analysed the relationship between colonialism and anthropology and showed the use of anthropology as a tool to govern. The colonisation of anthropology refers, on the one hand, to the residual links between anthropology and colonialism and, on the other hand, the term itself implies that the discipline itself is colonised, and anthropologists are partially unaware of its ethnoepistemology and -ontology (theories of knowledge and existence). Dualism, derivational models, ontological presuppositions, privileging certain domains (kinship, economy, politics and religion) and concepts (binary, contrast, demarcation and dichotomy) as given are common in anthropology, and can indicate colonialism within the discipline, and obscure and hinder multiple orderings of reality (Hvinding 1996: 165).

The term 'tribe' is not defined in the Constitution of India and to define tribes contradictory criteria are used. The debate on tribal policy in India is defined with three broad positions: isolation, assimilation and controlled integration. These are broadly associated with British administrators and anthropologists, Indian nationalists, and the official Nehru policy. In the mainstream anthropology there are two approaches to the *adivasis*: Elwin's (1994) 'noble savage' view, wanting to preserve them in an area in isolation; and Ghurye's (1980) 'backward Hindus' view, refusing any special status to the *adivasis*. This has strong parallels with contrasting perceptions of 'indigeneous peoples' elsewhere in the world, such as attitudes to 'Pygmy' peoples in Central Africa or the Kalahari debate. Anthropological research of the formal organisations of kinship through classificatory systems may be found in different texts on the castes (Mayer 1960; Dumont 1966) and *adivasis* (Roy 1970 [1912]); Bodding 1986 [1925]; Culshaw 1949; Majumdar 1955; Orans 1965; Archer 1974; Gautam 1977; Carrin-Bouez 1986; Mahapatra 1986; Parkin 1992). Bailey (1960; 1961: 18) emphasises the tribe–caste continuum. Parkin (1992: 11) suggests that the tribal reaction to Hinduisation may have strengthened the tribe–caste polarity. Bailey and Parkin open up the same theme from the point of view of the *adivasis* themselves. Moreover, there is the possibility that marginalised peoples and their

more powerful neighbours can alternate between emphasising a continuum or emphasising a polarity, depending on particular circumstances and relationships. (Kenrick 1996 has explored this in the Ituri in Central Africa.) Bodding's (1986) work among the Santal and medicinal plants is unusual, because it studies ethnomedical knowledge in a wider context and beyond the botanical perspective. Gadgil and Guha (1995*a*; 1995*b*), Hardiman (1994) and Rangarajan (1996) have done sociohistorical research of forest areas in India. Ecological studies, on the other hand, concentrate merely on natural resources, are bio-centered and preoccupied with biodiversity (the genetic diversity within the species and in the different ecosystems that they form) and carrying capacity. Most wildlife studies are also narrow in their focus: the forest provides a habitat for animals, and humans are considered as 'biotic interference' for both forests and animals.

There is abundant material on forest policy, and I make only a summary of it in relation to forest practices and livelihood sustainability. Forest policy researchers investigate forest policies and laws, which lay out the framework for forest-based development, and focus on planning and what should be done. Most policy research has focused predominantly on measurable values (diameter at breast heigt, earnings) and economic subjects on a state or national level. Fernandes (1992), Arnold and Guha (1995), and Singh and Mishra (1996) have researched development and environmental change on a national level. In JFM literature forest practices and livelihoods are discussed within national development framework (Roy 1995), whereby the local context becomes less relevant. Hobley (1996) compares participatory forestry in India and Nepal. National policy researchers have investigated social forestry[4] and JFM, and tend to favour either the Forest Department or non-governmental organisations (hereafter abbreviated 'NGOs'), but few account for various agents or include detailed case-studies (*The Indian Forester*; *Down to Earth*, published by the Centre for Science and Environment; *Wasteland News*, published by the Society for Promotion of Wasteland Management). I concentrate on understanding and interpreting what is happening (what kind of forest practices there already are) rather than what should happen in the field, and comparing the past and present practices with the current forest policy.

To tackle these inadequacies I apply Bourdieu's (1977) thinking tools of practice and habitus,[5] and Fairhead and Leach's ideas (1996; 1998) on the creation and perpetuation of environmental pseudo-problems as a lens through which planners' perceptions of indigenous forest and land practices are distorted. To understand cognitive foundations of forest classifications research on cognition (Atran 1990; Bloch 1998: 53) and symbolism (Douglas 1982) are helpful. Culture provides a set of principles for map-making and navigation. People do not merely learn to read cognitive maps of culture: they make them (Spradley 1980: 9). Forest practices express social relations.

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[4] The declared aim of social forestry, funded by the Swedish International Development Agency (1983-93), was to make villagers self-sufficient in fuelwood, fodder, small timber and NTFP. By 1996 plantations grew in 8,512 villages on 107,275 hectares, and 60,294 hectares of degraded forest have been rehabilitated (Patnaik *et al.* 1989; Economic Survey 1996-97). A forester said, 'Everyone is asking about social forestry, since we're in a stage that the patient has died, and we're trying to know what went wrong'.

[5] There is theorising in practice, whereby knowledge is embedded in practices (Bourdieu 1977: 20, 48). Habitus and 'embodied social structures' give frames to reasonable behaviour and common-sense world (Bourdieu 1979: 467-8).

I place forest practices within culture and history as well as within contemporary economic and political processes, to show that continuity and changes in forest practices are part of the social relations. The combined analysis of villagers' and state forest practices provides a dynamic analysis of the livelihood sustainability, and the ways in which resources acquire value. These values include many commitments, which indicate both local and wider contextual criteria. This theoretical analysis of conflicts, trade-offs and mismatches of forest practices helps to shed light on what creates several misunderstandings between, among and within agents.

Agents

Although it is important to attempt to ensure sustainable livelihoods for all of India's population, in this dissertation my focus is on forest-dwellers' livelihood sustainability in relation to two main agents: the *junglewala* and foresters. Unless mentioned otherwise, when I use the term *junglewala* (one of forest; *jangal* = forest), *junglee* or *junglia*, it refers to the forest-dwellers of the case studies in Mayurbhanj, rather than saying the villagers of Burupal and Mopani. *Gramaloko* (village people; villager, non-literal translation) refers to the villagers (or peasants, including the *junglewala*) of the case studies, and I use it often when explicitly or implicitly referring to state forest practices. The foresters talk usually of the villagers rather than the *junglewala*. The *adivasis* (original inhabitants),[6] refers to the *adivasis* of the case studies (mainly to the Santal, Bhumijo, Sabar, Kulho and Mundari).[7] Regarding medicinal plants, when I use the term *adivasi* medical practices, I refer to Kolho, Mundari and Santal communities in the Simlipal Biosphere Reserve. People use these words of themselves: 'we're *junglewala*' and '*gramaloko* know to use these plants'. Although the *adivasis* may say that 'the *adivasis* collect leaves', they usually refer to the community they belong to, 'the Santal like *sajana*', when talking with a non-*adivasi*. Among themselves the *adivasis* do not usually refer to themselves by tribal names, such as the Santal, which is used by neighbouring communities to denote them, but refer to themselves as *Hor* (a Santal). I refer to the *adivasis*, because case studies include several *adivasi* communities, and specify the community when it is particularly relevant. Despite these distinctions, the term *junglewala* overlaps with the term *adivasi*, since most *junglewala* are *adivasis* in Mayurbhanj and in India. To emphasise that the villagers of the case studies live near the forest and express in various ways its significance in their lives, most of the time I use *junglewala* rather than villagers. The caste groups –*Brahmins*, *Kshatriyas*, *Vaishyas* and *Shudras* – use the term 'general castes' to identify themselves. The Government of India identifies them as 'Other Caste' groups. Unless mentioned otherwise, when I use the term 'forester', it refers to a forest official of any rank, mostly in

[6] Some Hindu religious fundamentalists refer to the *adivasis* as *vanvasis* (forest-dwellers), whereby they are not regarded as first inhabitants and are converted to certain geographical regions. Some refer to the *adivasis* by the racist name *kaliparaja* (black twiceborn), which implies that they are at a lower stage in a cyclical model of evolution. The government refers to the *adivasis* as Scheduled Tribes, but despite some economic benefits and the quota system, the *adivasis* do not like this term. Hardiman (1987: 15) and I prefer the term *adivasi* to tribal, as the latter suffers from its evolutionist origin.

[7] Parkin (1992: 17-8) uses 'Munda to the whole group of related tribes and languages only, and 'Mundari' for the single tribe and its language. Santali and Mundari-Ho belong to North Munda branch and Proto-Kherwarian (*kher* = goose) sub-branch. All Munda have patrilineal, exogamous descent groups, and most are totemic. Munda derives from Sanskrit and means 'wealthy' and 'head(man)' (Parkin 1992: 53, 17).

Mayurbhanj, sometimes in Orissa and India. Although some generalisations from these case studies can be drawn, there are many differences in forest practices and livelihoods in Orissa and India.

The Forest Department is not a monolith, although because of the para-military appearance (*khaki* uniforms, para-militaristic salutes, weapons) it may seem so. The Forest Department is composed of administrators, technical forestry specialists and forest police. Within the Forest Department there are lateral divisions (different ranks of forest officials: forest guard, forester, ranger, assistant conservator of forests, District Forest Official, Conservator of Forests, Chief Conservator of Forests, Principal Chief Conservator of Forests), and vertical divisions (different Circles, Divisions and Wings). Although these categories are cross-cutting, they enable an analysis of the institutional structure of the Forest Department. Forest guards and foresters are representatives of the forest-level state bureaucracy, front-line foresters, who are often in the twist of conflicting interests. Foresters are diverse: some emphasise policing, others educating, others revenue, others ecology and wildlife, and others *junglewala*'s livelihoods. A forester saw himself as more of a social worker than a forester, and tried to settle village, community and family conflicts; 'some family conflicts keep on bending until Mishra-*babu* comes', he said. Another forester had worked as a *kobiraj* (herbalist, *chermule* or root-doctor) over 20 years, and daily had many patients he diagnosed with a urine-in-oil-test and for whom he prescribed ayurvedic medicines in his courtyard on the premises of the Forest Department. Sometimes in the middle of this he was called for a protection duty, changed his *lungi* (a piece of cloth wrapper around the waist) to a *khaki* uniform, and set off on his moped with 'Save the tiger' painted on it.

Although differences exist along gender, age, educational, occupational, class, ethnic and other lines and among individuals of similar social status, I classify agents into two main groups: on- and off-site agents. (These are outsiders' categories, and used in the development discourse.) On-site agents are people who are residents in the concerned area. They include the *junglewala*, forest-fringe farmers, livestock keepers, fuelwood and NTFP collectors and internal institutional agents, such as traditional authority, local governance, party politics, and community organisations (FPCs). On-site agents are recipients of external influences and agents of history: they influence the larger society and its formation. Off-site agents are temporary residents or non-residents of the area who have an interest in an area or an issue. They include foresters, administrators, politicians, businessmen, environmentalists and international agencies. I classify them in two ways: in relation to area as local, regional, national or global agents to show interrelationships between local and non-local contexts; and in a more detailed manner with regard to their occupation or organisation: officials (rank, age, gender), politicians, businessmen (middlemen, wholesalers), NGOs (grass roots, regional, national, international), environmentalists, activists of humans or animal rights, downstream communities reliant on forest produce and services, and FPCs. There is a tendency for on-site agents to have the long-term interest of the locality, and off-site agents to have short-term (extraction) interest. The following commonly used insiders' categories seem to imply this. The majority of off-site agents belong to the general castes to whom the *adivasis*, the majority of on-site agents in the case-study villages, refer as

Dikus. The term *Diku* applies to those who dominate and exploit the *adivasis*; it does not apply to all outsiders, and some *adivasis* are conceived to be *Dikus*. The *junglewala* perceive government officials as *babus*, *sahibs*, representatives of the *Diku-sahib*-rule, or dominant others.[8] Despite 50 years of reservation for the *adivasis* and *dalits*, there are very few *adivasi* higher forest officials or big businessmen, and on-site agents remain marginal agents.

Some off-site agents are regional agents, who prioritise the needs and interests of regional residents, such as the supporters of the FPCs or the supporters of the Jharkhand (land of forests) movement, and would like to decide how the regional resources are used. The Jharkhand movement is a political movement of Chotanagpur region demanding the creation of a separate state of Jharkhand (Appendix 16). Regional agents may share their interests with the *junglewala*, and are involved in the agitation and political struggle to get these interests accomplished. Sometimes they claim to do this, although the *junglewala* may feel as alienated from regional agents as from national and global agents. Another misinterpretation is also common: global agents conceive regional agents as local agents, but in doing so, the capacity of local agents to unite as regional agents is undermined, as has often been the case with the Jharkhandis (Appendix 20).

Government agencies implement the decisions of both the central and state governments. Controversies between the Forest, Revenue and Civil Departments over forest access and use rights reveal state interests in conflict. Civil Departments are interested in developmental activities (wells, schools) in forest areas, and the Revenue Department in land and forest produce under its jurisdiction, to increase revenue. Sometimes the programs of different Departments pull in opposite directions: the Forest Department argues that there is not enough fodder for the existing domestic animals, while the District Rural Development Agency gives subsidised loans to people interested for poultry and goatery. In JFM the agents are divided into partners, people and the Forest Department, and facilitators, such as NGOs, planners, politicians and scientists. NGOs are varied in size and activities: some focus on income generation, others on environment (Fernandes 1996). For many NGOs, forests are secondary, forests are a means to an end. Many NGOs emphasise the sociopolitical aspects of forest practices: what rights people have, and how to meet their livelihood requirements. In Mayurbhanj NGOs, such as the Mayurbhanj Swechha-Sevi Samukhya (hereafter abbreviated 'MASS') and the Documentation of Information and Processing Syndicate (DIPS), emphasise community institution-building and organise meetings and trainings for informally organised community groups, and organise networks of FPCs. Although some forest NGOs claim to mediate conflicts between the Forest Department and villagers, it has been difficult for them to be non-partisan intermediaries facilitating mutual understanding between the foresters and *junglewala*.[9]

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[8] The Indians used to address the British as *sahibs*, and the British referred to Indian clerks as *babus*. Nowadays *sahib* is used as a synonym for the boss (of any race). The superior officials are called *sahibs*, and subordinate officials *babus* (white-collar workers, educated persons, non-literal translations).

[9] The Vasundhara-NGO works towards matching a 'top-down organisation and bottom-up processes' according to its founder, Neera Singh (discussion in May 1996). The Vasundhara would like to see the Forest Department becoming more like the Department of Agriculture, acting as a facilitator and an extension agent, providing technical and market advice and enabling communities to become more self-sufficient on mostly private land. The Indian Institute of Bio-Social Research and Development sees JFM as a seachange in forest policies, and argues for the 'bilateral matching of institutions'. It claims that

Another group of off-site agents is global agents, central institutions operating at a global level: the United Nations, international agencies (GATT, IMF, World Bank), national governments, multinational corporations, and large NGOs (environmental, animal or human rights lobbies). As this list shows, there is no single globalist perspective. Sometimes national and global agents have interest in the same issues, but have different views who should bear more responsibility in monetary terms. The same global and national governments and institutions have both centralising and decentralising policies, and the way these conflicting objectives are implemented in practice tends to create ambiguous situations. Moreover, national and global agents overlook local complexities, and conceive local historical and sociocultural factors as marginals. They often fail to see that households organise themselves in a variety of ways when faced with development plans and interventions of the government agents, companies or NGOs, and this counts for different strategies within a small area. The scope for major changes in forest practices is limited by agents' different interests and values. Some agents are passionate about their interests and values, and have passions in the landscape. Overall, whether an act, such as felling trees, is considered as harvesting, silvicultural practice, a question of necessity, protest, resistance, anti-social activity or crime, depends on the viewpoint of the agent and interpreter, and the context in which this action takes place (Ortner 1995).

Within and beyond the dualist ordering of thought[10]

Although the motivations associated with economics and commerce in the Western thought are important, as abundant literature shows, in this dissertation I focus on dualism. Broad cultural patterns of the West are dichotomous in that they divide a whole into two parts, or sharply contrasting groups. The dualist mode of thought consists of binary oppositions of the logical form 'A **or** not-A' (the absolute absence of the other element), such as rationality–irrationality, mind–body, life–death, and profane–sacred. The dichotomy-theorising as systematising thought conceals the dynamics and complexity of social life (Foucault 1980), and if nature and history are taken into account, these dichotomies do not hold. Instead of reducing alternatives to dichotomies and binaries (made up of two parts, such as computer systems using digits 0 and 1), I aim to go within and beyond several dichotomies (villagers' and state forest practices, local knowledge–Western scientific knowledge, nature–culture, wild–domesticated, forest–village, object–subject, other–self, living kind–dead–unborn, natural–human–cosmic spheres) to show their interrelatedness. Although oppositions may be set up to process information, or to be transcended or merged, dualism can be abusive, and seems to be inherently violent towards life and experience. I examine forest practices with an interactional, intersubjective, 'relationist' subject (knower)–subject (known) conception of knowledge, which is part

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sensitisation using transactional analysis, which examines the ego states as child, parent and adult (Summerton 1988), is enough for a change to happen. It has adapted a medical model and conceives problems in terms of symptoms and remedies. Some foresters complained that they cannot implement this optimistic training in the field.

[10] Beyond-metaphor is an organising metaphor in the West. It is combined, or perhaps behind it, is the 'life is a journey' metaphor. There are multiple, intertwined journeys in the web of life, and whether they are so pan-humanly experienced to be universal is debated. For example, for a secretive cultural tradition, 'within metaphor' may be a more significant title (Fernandez 1991: 8).

of the process towards the democratisation of knowledge. The 'within and beyond' expression indicates an emphasis on diversity and continuums. To go within and beyond the dualist ordering of thought requires recognition of the diversity within and between the assumed binaries to show their interrelatedness. This dissertation attempts to shed a little light on seeing within and beyond the forest: showing diversity within the forest (what it consist of?), and seeing beyond the forest (what wider context it relates to?). This kind of multiple rather than dualistic approach helps to understand forest conflicts and misunderstandings.

Dualism is a theory or a system of thought that recognises two independent principles, such as the philosophical doctrine that mind and matter (body) exist as distinct entities (opposed to idealism and materialism).[11] The dualist ordering of thought is twofold, consisting of two parts, is the Descartesian approach to knowledge and the predominant model of Western science. Another one is the linear ordering of thought that pertains to a line or lines. Linearism emphasises line or contour as opposed to colour or mass. To linearise cyclic conceptions (to represent them in a linear form) or to dualise non-dualist conceptions distorts them. The dualist ordering of thought points to the separateness, whereas orientation to the iconic thought points to the whole, interrelatedness, mutualism, and tries not to get rid of the cosmogonic puzzlement (Fernandez 1982: 573). The reconceptualisation of the dualist ordering of thought transcends from dualist sidedness, such as the dualism of nature (the object world of material non-humans) and culture (intentional human subjects), to have interrelatedness (of apparent oppositions or contradictions), and helps to understand forest practices. The dualist ordering of thought is often unhelpful in interpreting symbolic ordering of thought (symbolic orders, meanings).

Dichotomies and compartments are not just analytical devices to help the thought process, they mould thinking. Treating nature and people as opposed structures the ways that such relationships are theorised. The foresters assume an *a priori* dichotomy between nature and society, and ecological and social issues, whereas the *junglewala* do not. The dualist thought consists of separate categories, and relationships are understood to be *between* them. The non-dualist thought consists of overlapping categories and interrelationships (mutually related or connected) are understood to be *among* them. Preposition *between* implies separateness, and preposition *among* interrelatedness of the categories. Fairhead and Leach (1996: 6, 10, 16) criticise the use of a non-pluralistic nature–culture 'straitjacket' in non-dualistic worlds. The cave of dualistic thinking divides human experience and exhausts possibilities of understanding and acting. This dissertation is part of the process to reconceptualise some unhelpful dichotomies.

The dualist ordering of thought has enabled people to see themselves as superior to and even outside nature, although they are an integral part of it. Early ethnographers interpreted the lack of separation between nature and humans as a sign of the primitiveness of a people. For Lévy-Bruhl

[11] Opposing this, for Merlau-Ponty (1962: 101), the body is a nodal point in perceiving the world: one's own body is a 'third-term', always tacitly implied in any figure-ground construction. A child first perceives the physical and social environment as a continuum, and later learns that 'the world consists of "things" distinguished by names' – discontinuous environment. Language classifies and moulds our environment (Leach 1972: 47-8).

(1926), the 'pre-logical mentality of 'primitive peoples' was not governed by logical relations. He opposed the psychic unity of humankind, and advocated a cognitive relativity. Several anthropologists argue for human universals, such as the empiricist functionalism of Malinowski (1948), the rationalist structuralism of Lévi-Strauss (1963), and the interpretive project of Geertz (1973). Winch (1977) criticises Evans-Pritchard's (1965*a*) classic study of witchcraft and magic among the Azande. Drawing on the critique of logical positivism in social science and the late writings of Wittgenstein (1983) on 'language games', Winch argues that Zande notions about witchcraft cannot be compared with Western science. The language games of a given community cannot be judged according to a meta-language, because there is no independent reality (Tambiah 1990: 117; Hviding 1996: 165-6).

Anthropologists have argued that other people have their own science and resource use practices. Since the late 1950s many sub-branches of anthropological investigation bear the prefix 'ethno', indicating the knowledge of the observed rather than of the observer (Conklin 1954). 'Ethno' is used to prefix names of disciplines that Western epistemology considers to be 'objective science' based on the hypothetical-deductive method (Popper 1980). The strong empirism of ethnoscience is tied to the emic side of the emic–etic distinction (Pike 1954) and elaborated upon by cognitive anthropologists. Ethnoecology, proceeding from ontological constructs of the nature–culture dualism implies that 'a subjective grid of "culture" is imposed upon the objective reality of "nature"' and remains tied to 'natural laws' and precludes factors that are not in nature according to Western ontology and science (Hviding 1996: 168). Methodologically, this approach creates information on taxonomic representations but less on people's conceptions of environmental processes and relations. Analytical endeavours emphasise the levels of convergence between ecology and ethnoecology, and ethnobiological classification and biological (Linnean) classification (Hviding 1996: 167-9). Anthropological studies of classification and categorisation have demonstrated the internal coherence and order of folk taxonomies (Ellen and Reason 1979; Descola 1994). Building on the work of ethnobotanists, cognitive anthropology researches the structure and systematic nature of folk knowledge. In showing similarity (complexity, sophistication, structure) between knowledges, cognitive anthropology places the reasoning at the heart of the debate, and argue for the same legal status to be entitled to them (Atran 1987; Posey and Dutfield 1996). Cognition is a 'shifting anchor', since there is no categorical theory of life but a theory of life that applies contextually to different types of beings (Bloch 1998: 53).

The dichotomies mentioned earlier are social constructions and indicative of a hierarchical and derivational cultural model (Gudeman 1986; Holland and Quinn 1987). An articulated version of 'The Great Chain of Being' or 'Great Ladder' (*scala naturae*; Lovejoy 1976) exists as a contemporary unconscious cultural model fundamental to Western understanding of ourselves and the world. This cultural model has powerful implications: the hierarchical ordering of classes of humans beings, where higher forms of being dominate the lower forms of being (inanimate and animate, or sensate being and rational/self-conscious being) (Lakoff and Turner 1989: 167, 208). The scientific revolution separated

scientific practice from the rest of culture. For Merchant (1981), this change in the worldview was the 'death of nature'. Both nature and history, and structure (constitution, substance) and function (significance, relationships) were separated, and this lead to the exploitation of natural and human resources (Hastrup 1989: 17). Dualistic thinking implies that binaries are opposites of each other (nature ≠ culture), although binaries are interrelated needing each other to make sense: both–and cases. Dualistic thinking encourages either–or thinking, and non-dualistic thinking discourages it. The *junglewala*'s conceptions of ecological linkages are not consistent with the dualist ordering of thought and Western postulates on causality, but they make causal judgements.

Dualistic thinking is usually combined with causal thinking: 'A caused B' or 'A caused B because of C'. For Boyer (1994: 129-31, 140), the principles of causation are inadequate, and he opposes the tendency to explain causal judgements on the basis of constraints imposed by abstract principles of causation.

> The alternative anthropological idea of causal thinking is that causal judgements are made natural by the existence of implicit cultural models [whereby apparently strange causal judgements make sense] (Boyer 1994: 141).

According to Boyer (1994: 141-2), in a causal schemata, subjects resort to conceptual causal generalisations, which a singular event is supposed to instantiate, and cultural knowledge consists of abstract rules specifying relationships between conceptions, such as

IF	(spirits' anger)
THEN	(little rain, poor crops, low fertility)

or

IF	(harmony among natural, human and cosmic spheres)
THEN	(prosperity, good health)

The 'if–then' formula represents causal schemata, so that 'if A then B' can be read as the natural sentence 'A causes B', and nothing more. 'The formulas are not necessarily analogous to material implication or entailment' (Boyer 1994: 141 fn. 8). The *junglewala*'s causal judgements relate to the whole. Rather than linear 'A causing B' -models (A affecting B, or B, A), the *junglewala* in a manner parallel to interactional analyses conceive 'A and B mutually affecting one another', and are able to understand processes, the subtle complexities of change through time (Borofsky 1994: 476). Moreover, this interrelatedness is expressed in reciprocal obligations and expectations, to use Coleman's term, 'social capital'.

> [If] A does something for B and trusts B to reciprocate in the future, this establishes an expectation in A and an obligation on the part of B to keep the trust. This obligation can be conceived as a "credit slip" held by A to be redeemed by some performance by B (Coleman 1990: 306).

The extent to which these obligations and expectations are held in practice indicates the level of trustworthiness of the social environment. Coleman (1990: 304) discusses social capital among persons in relation to facilitating productive activity, but *junglewala*'s forest practices reveal similar relationship among natural, human and cosmic agents with regard to productive and reproductive activity.

Atran (1990) plays down the differences in different agents' empirical ethnoclassifications, ethnobotany and botany, and ethnoforestry and forestry. Both the *junglewala* and foresters identify taxonomic order morphologically, such as the shape, texture and colour of the plant and its parts (bark, leaf, fruit). Plants, a life form, express the continuity of biological species, and do not encourage the nature – culture dichotomy (Atran 1990: 35; Rival 1998: 2-3). It is the next level up, and when seen in a wider context and generalised practice that they seem to be different. The *junglewala*'s principles of differentiation and modes of relating reveal ontologies and epistemologies that differ from those of the foresters. The foresters are trained to conceive natural, human and cosmic agents as agents of separate orders rather than as a part of the whole. The Forest Department relies on maintaining hierarchical nature – culture, local knowledge–Western scientific knowledge and object–subject dichotomies. For the *junglewala*, there is a continuum of plants, animals, humans and spirits: they belong to the same order. Many *junglewala*'s forest practices express the subject–subject relationship of different agents, and aim to make contact and interact with living kinds in natural, human and cosmic spheres. The *junglewala*'s cosmovision model has the world together: one order.

Conceptions of nature–culture relationships

The way people understand the nature–culture relationship is related to the way they conceive environment–society–person and forest–people relationships, and how they see themselves in the cosmos or lifeworld. First, I discuss a few central ideas of the nature–culture debate, and argue that although we may think to address one of them, we address both of them. Then I discuss an interrelated environment–society concept, and Ingold's (1992; 1993) way to go beyond the nature–culture dualism and the disengagement view of knowledge, and then as a concrete manifestation of the nature–culture interrelationship, forest–human and forest–village interactions. Agents make a stand with forest practices about forest–village interactions, and from these more generalised understandings of the nature–culture relationships, worldviews and cosmovision models can be inferred. Forest practices embody certain assumptions about plants, animals and spirits. As an analyst, I read off these assumptions.

Nature and culture are social constructs; they develop and make sense within their particular sociocultural, economic and ecological *milieux*. For Durkheim (1960), the idea of a supernatural order is derived from the idea of a natural order of things. Nature and the cultural conception of nature co-evolve together (Dove 1994: 109-10). Nature–culture conceptualisations arise through historical

contingency, linguistic constraints, metaphorical extension and ritual prohibitions (Ellen 1996: 118-9). Croll and Parkin (1992*b*: 22-34) use the concept of eco-cosmology to refer to integral models of nature–human relatedness, and it is fundamental to their critique of external scripts for development. This concept is related to the classical anthropological notions of 'totemism' and 'animism'. For Lévi-Strauss (1966: 232), totemism is a 'lived' and hereditary system of classifying social units based on the classification of natural species. For Descola (1992: 87), animism is the symmetrical inverse of totemism: 'animism endows natural beings with human dispositions and social attributes.' In animism living kinds (species) are organised based on the social classification.[12]

> 'If totemic systems model society after nature, then animic systems model nature after society' (Århеim 1996: 185).

For the *junglewala*, nature and society are interrelated and model each other. *Junglewala*'s natural, human and cosmic spheres constitute a cosmovision, where humankind is a particular form of life in a wider community of living kinds.

Collingwood (1945) discusses the transformation and diversity of meanings of the concept of nature within the European literary tradition. Collingwood argues that *The Idea of Nature* has been a focus of thought three times in the history of European thought: the Greek, the Renaissance (16th–17th centuries) and the modern view of nature (end of 18th century). The main principle of the Greek natural science is that the world of nature is permeated by mind; nature is alive and intelligent, with a 'soul', vitality or with a mind/life of its own in a continual change (ceaseless and regular motions due to soul; Collingwood 1945: 11). For the Renaissance thinkers, nature was not a living organism, but a cosmic machine devoid of intelligence and life. The orderliness of the nature was an expression of intelligence of God (primary substance), the divine creator and ruler of nature (to serve his/her purposes; Collingwood 1945: 5, 32). From Descartes' two-substance doctrine onwards, nature has been conceived as object, an inorganic, quantifiable substance that differs from the subject by not possessing mind, spirit or soul (Collingwood 1945: 104; Soper 1995: 43).

The Greeks made an analogy between nature (macrocosm) and the individual human being (microcosm). The Renaissance thinkers made an analogy between nature and a machine: as a clockmaster is to a clock, so (Christian creative) God is to Nature (Collingwood 1945: 8-9). With Hegel there was the transition to the modern view of nature. The modern view is based on the analogy between the processes of the natural world (natural scientists) and the vicissitudes of human affairs (historians) (Collingwood 1945: 124, 132, 9). Greek, Renaissance, and modern thinkers see the world of nature in a state of continuous change. For the Greeks, the continuous changes in nature are cyclical, a-> b -> a, and changes in society are organic growth. For modern thinkers, nature consists of processes, and change is progressive: history does not repeat itself. Modern thinkers associate development with a final stage, consisting of human-made structures. According to the evolutionary

[12] If one defines culture as that which is transmitted (by example and learning) from older to younger individuals, then culture is widespread among animals (Bonner 1980).

theory, nature is no longer mechanical. It reintroduced the idea of teleology or final causation, and *nisus*: 'everything in nature is trying to become something definite' (Collingwood 1945: 132, 124). Modern physics denies the substance–function distinction.[13] The natural world is an anthropocentric world consisting of those natural processes whose time- and space-range are within the limits of human observation – scientifically knowable process of evolution (Collingwood 1945: 13-7, 24). Nature is a historical phenomenon to the extent that nature and history cannot be separated (Collingwood 1945: 177; Fairhead and Leach 1996).

Nature as a domain is not ontologically prior to that of culture and vice versa (Soper 1995: 206-7, 255-8). There is no pure, balanced nature (not even biosphere) that has somehow escaped becoming an integral part of human's social affairs, which is the tacit notion in most environmental thinking. Another assumption in contemporary environmentalism is the alienation of people from nature as part of the fetishisation of nature. For a long time, forests have been manipulated and changed by humans: organic and inorganic nature is modified by human social relations and processes (Dickens 1992: 83). Forests often acquire the form they do due to human activity (shifting cultivation, plantation, and biosphere reserves). Hence, it is debatable what, if anything, consists a 'natural' forest. There are environmental problems, but these are not helped by fetishisation, a form of reification: giving nature a socially mediated life and autonomy of its own. Nevertheless, the web of life worldview (Capra 1997) offers possibilities for sustainability, and does not have to restrict itself to fetishsised and functionalist understandings of nature (Bruun and Kalland 1995).

Heidegger (1968) pointed out that nature has been much more than the basic term of a series of antithetical notions: it functions as an encompassing totality defining the very characteristics of each of the notions it opposes. The nature–culture dichotomy and natural sciences have been used to make an evolutionary classification of cultures, a sociocultural differentiation (hierarchical order of a linear, progressive evolution). The nature–culture dichotomy reflects an 'ethnocentric bias in favour of "civilized" humanity' (Soper 1995: 250). The historicity of these concepts has been overlooked. The discourse of 'nature' has served oppressive ends in legitimating divisions of race, gender, and class, in encouraging intolerance of minorities, or in promoting fictitious conceptions of national and tribal identity that have had destructive effects (Soper 1995: 250).[14] The nature–culture conception relates to the sense of human identity itself: how do humans identify with nature?

Western thinking about nature has focused on two connected distinctions: nature as 'naturally given and what is contrived (the artificial)', and what nature dictates and what is humanly instigated (the cultural or conventional) (Soper 1995: 36). The Ionian philosophers (6th–7th centuries BC) made a difference between self-occurring things and artifice. By the fifth century a distinction between

[13] The modern theory of matter has solved the following three dualisms: the dualism of impact and attraction, of ether and gross matter, and of the physical quantity and chemical quantity. But the Newtonian form of modern physics has several other problems: the dualism of matter and motion, the problem of the transference of motion from body to body, and the dualism of matter and space (Collingwood 1945: 151).

[14] Soper (1995: 150) warns of a problematic legacy of ecological critics of instrumental rationality, when the Green movement redeploys the organicist imagery. The ways in which understandings of nature, historically and in current popular culture are used as a way of legitimising dominance are merely mentioned here, although would require further research.

nomos (a convention of culture, custom) and *physis* (naturally determined; nature as animate; derives from *phyto* = to grow; plant) was made (Collingwood 1945: 29-30; Soper 1995: 36). For Enlightenment thinkers, *physis* had no organic but mechanistic associations; nature was an object and separate from culture. Modern physics deals with the properties and interactions of matter and energy. Nature is a 'continually shifting signifier', because 'we can make no distinction between the "reality" of nature and its cultural representation that is not itself conceptual' (Soper 1995: 151). Hence, 'nature' is nature, and the inverted commas should be removed.[15]

The analogy between earth and nature as a living kind of which humans are part is an important underlying inclination affecting humans, perhaps other species, and their construction of the nature (Dickens 1992: 136). Dickens (1992: 136) suggests that making analogies between the known human world and the nature–people relations 'may be latent human propensity', but currently little known of. The Mother Earth analogy has occurred cross-culturally.[16] Merchant (1981: 2) shows the extent to which the Mother Earth metaphor has been adaptable and flexible. It applies, on the one hand, to a kind nurturing mother, who provides for human needs, and on the other hand, to a dominating mother, who renders feared violence and calamities. The industrial revolution largely pushed aside the organic metaphor and its imagery of nurturing and co-existence, and instead of dialectical interaction emphasised the mastery and exploitation of nature. Dickens (1992: 136-7), in line with Harré's (1985) stratified model of the mind, suggests that the notion of the Earth as an alive organism is a mental structure or predisposition, and part of the deep structure of the human mind of an analogy between the person and people (parents). It guides the concepts and metaphors expressing experience, and develops with other organisms, which constitute the human organism's environment.

Universalists emphasise the limitations of human conceptual permutations (Boyer 1993). Relativists emphasise contextual variation, and argue that societies and cultures (second-order constructs) do not have a single conception of nature, and some have no concept of nature (Ellen 1996: 104). Relativists emphasise the situatedness of knowledge and doubt the adequacy of meta-discourse. Intermediaries challenge universalist models, but think that meaningful comparisons are possible, because sociality and intersubjectivity are innate predispositions of humankind (Howell 1996). Pálsson (1996) distinguishes between three kinds of human-environmental relations: orientalism (negative reciprocity; exploitation), paternalism (balanced reciprocity; protection and quotas), and communialism (generalised reciprocity; dialogue). In environmental orientalism and paternalism humans are masters of nature, and the former 'exploits', the latter 'protects'.

> Orientalist ethnographers colonise the reality they are studying in terms of a universalist discourse [to assert their superiority] (Pálsson 1996: 68).

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[15] It 'is not language that has a hole in its ozone layer; and the "real" thing continues to be polluted and degraded' (Soper 1995: 151).

[16] From the Neolithic through the Bronze Ages, the societies of 'Old Europe' worshipped numerous female deities as incarnations of the Mother Earth. Throughout the Middle Ages and the Renaissance the Earth as a living being continued to flourish, until swapped by the Cartesian image of the world as a machine (Capra 1997: 22).

Paternalist protection implies human mastery and the distinction between laypersons and experts, privileging scientific experience. Communalism makes neither nature–science nor scientific–practical knowledge distinctions. It rejects the notion of mastery and emphasises notions of contingency, engagement, participation and dialogue. It argues for greater sensitivity to the flow of experience rather than establishing control (Pálsson 1996: 66, 78).

When discussing the nature–culture relationship, many anthropologists revert to structuralist analyses. Lévi-Strauss in *The Elementary Structures of Kinship* (1969) poses a fundamental, universal opposition between nature and culture, in *The Savage Mind* (1966) between savage (wild) and domesticated, and in myth studies how humans made a transition from nature to culture. For Lévi-Strauss (1969: 24-5), the incest taboo makes a 'transition' from nature to culture; it ends 'nature's sovereignty over man' and establishes culture. For Lévi-Strauss (1986: 8), rules (of exogamy) imply that 'the cultural stage has been reached'. Hence, what matters is not the possession of biological properties, but the presence of certain practices (Soper 1995: 52). In explaining totemism, myths and kinship systems as forms of an invariant structure of human cognition, structural anthropology aspires to see all cultural systems of thinking having equivalent status. Lévi-Strauss downplayed the nature–culture opposition in *Structuralism and ecology* (1972), and advocated a naturalistic conception of the mind 'as a filtering device decoding sets of contrasts already present in nature' (Descola 1996: 84). Lévi-Strauss (1966: 265, 37) sees that Western practice of disengaging its various metaphors from the social relations and dealing with them in fragments differentiates it from the 'savage thought' and its uses of marriage relations for models rather than greater mystical or thinking propensities of one of them. Myths communicate about the existence of humankind simultaneously in nature and culture: birds' eggs transforming to humans, human ancestors' marrying animals, and mountains and trees as spirits. The nature–culture continuum means that nature–culture is the same substance, an integral unit and entity with two poles: domesticated–wild. The nature–culture dualism means that they are two different substances. Goody (1977: 7) notes that Lévi-Strauss (1966) makes several references to the dichotomy between wild and domesticated thought, such as hot–cold, modern–neolithic, scientific–mythical thought, engineer–*bricoleur*, and abstract thought–intuition. Hence, Lévi-Strauss uses a folk-taxonomy to bring order and understanding, but these categories are value-laden and ethnocentric (Goody 1977: 36).

Descola (1994), in his research among the Achuar Jivaro, an Upper-Amazonian Indian tribe in Ecuador (supervised by Lévi-Strauss), sees the nature–culture division as a continuum from domestic culture over domesticated nature to non-domesticated nature. For the Achuar, the forest is not 'a wild world of vegetal spontaneity', but 'a superhuman garden' whose logic is not different from an ordinary garden life (Descola 1994: 324). Descola (1994: 324) interprets this reduction of forest to garden to mean a nature–culture continuum.

There are two contradictory interpretations of humans' relationship with their environment. One approach conceives nature as 'good to think with', to exercise thought making taxonomies and

cosmological imaginings, and establish 'the semiology of native discourse' (Descola 1994: 2; see Howell 1984; Fernandez 1986). Another approach, ecological reductionism, attempts to explain all cultural manifestations as representations of nature's 'natural' work, and is mainly concerned with symbolic morphology (form of flora and fauna; Harris 1968: 578-600; 1977; Rappaport 1968; Vayda and Rappaport 1968). Both approaches concede only a subservient role to practice: the former focuses on productions of the mind (myths, taxonomies); the latter reduces practice to its alleged adaptive function. Yet forest practices are bearers of rich, often implicit, symbolism, such as avoidance practices of specific plants and animals. Taxonomic knowledge orders the world and is used to act upon it. Descola (1994: 2-3) aims not to separate the ways the forest is used and their representations to show that the social practice of nature hinges on the idea a society has of itself, its material environment and its intervention in that environment. Material and conceptual aspects are interwoven in practice.[17] For Marxists nature is good to exploit, and for Descola (1992: 112) 'good to socialise'. There are correspondences between different fields of social practice, which are not necessarily causal links.

> There is homology between the way in which we address "nature" and the way in which we address "others" (Descola 1992: 111).

The deep-rooted nature–culture dualism guides the foresters to see nature as a reality outside the human sphere and which humans can organise, transform and control. These concepts are tainted with implicit naturalism. The foresters see themselves as *homo faber* acting on mute environment. The foresters have an anthropocentric order: nature as an autonomous sphere. The Achuar, and the *junglewala* of Mayurbhanj, conceive nature as a world of anthropomorphic powers, and hence they have several means of communicating and acting with these powers. To understand *junglewala*'s forest practices, the nature–culture dualism has to give way to a many-sided interaction among humans and other living kinds. For Descola's (1994: 93) Achuar, and the *junglewala*, the supernatural as a level of reality is not separate from nature: 'the natural is no more "real" than the supernatural.' The natural, human and supernatural spheres are overlapping categories and 'conceptually on the same plane, but methodologically, they are separated by the respective conditions that govern their access' (Descola 1994: 100-1). To use the word 'supernatural' to describe conceptions that defy the way Westerners see the laws of nature, is problematic. First, it assumes that spirits and ghosts are not natural. Secondly, scholastic terminology of Western history distorts other ways of conceptualising, and regards, for example, animism as a form of religion rather than as a way of conceiving material, human and immaterial spheres inseparable (Douglas 1996: 200).[18] To interpret them without local

[17] For Lévi-Strauss (1964; 1966), animals were good to think with, because animals were alive in a way that was conceived to be similar to that of humans (and for Dahl and Hjort (1976), because animals and people are ecologically linked, for example in the food chain). For Fortes (1966), animals are good to prohibit because they are good to eat.

[18] Frazer (1993), drawing on evolutionary assumptions implicit in Robertson Smith and Hegelian dialectic, assigned to human culture three stages of development: magic was the first stage (thesis), religion the second (antithesis), science the third (synthesis) (Douglas 1982: 23). For Lévi-Strauss (1966: 221), religion (as anthropomorphism of nature) and magic (as physiomorphism of human) are found together ('these are not alternatives or stages in an evolution'), although their respective proportions may vary. 'If it is impossible to affirm that religion genetically precedes magic or vice versa, it is consequently

conceptualisations distorts their meanings. Although diverse, *junglewala*'s representations transcend the Western dichotomies between things natural, things cultural and things supernatural. The *junglewala* conceive the world as a whole and a unity: when they talk about humans, humans are in natural and cosmic spheres. In order to compare their views with those of the foresters I interpret their world to incorporate three dimensions: natural, human and cosmic landscapes and spheres. These distinctions are grounded in the nature-culture dichotomy, and are problematic since the *junglewala* do not make these distinctions: supernatural is natural to them. To separate something as supernatural, cosmic, religious or magic rests on the nature–culture dichotomy.

According to utilitarian rationality, from Malinowski to recent ecological pseudo-materialism,

> symbolic practices produce materially objective results. Magic becomes a sort of optimizing mechanism, which ensures the complete success of an operation on nature (Descola 1994: 213).

The functionalist interpretation of magic demonstrates that extravagant customs have practical, positive function. The Achuar gardening magic, the Santal *Ma mane bonga* (Chapter 6) and *junglewala*'s *Raja* festival (Chapter 9) show the inadequacy of this functionalist causality. Rather than focusing on the practical results of gardening magic, Descola focuses on its logical results: its capacity to produce meaning (mitigate risks) in a given context. Magic (*bhoja bidya* = king of knowledge) and symbolism are ways to bridge gaps of incomplete knowledge and science (*bi gyana* = detailed knowledge).

Descola (1994: 323-6) argues that each Achuar household thinks of itself as unique, autonomous centre for all relations with the surroundings. Nature is conceived to be governed by the same social relations as those set in the house.

> [Achuar nature] is therefore neither domesticated, nor domesticable, but simply domestic (Descola 1994: 324).

The Achuar do not merely give nature anthropomorphic attributes; they bestow nature with social properties and socialise mentally with nature. The Achuar weave a network of social relationships between themselves and use the same conceptual mode for their relationship with nature. Descola (1994: 327) shows how the Achuar conceptualise different subsistence practices with different kinds of social behaviour: 'the women's consanguine mothering of cultivated plants and the affinal charming of game practiced by the men.' The *junglewala* of Mayurbhanj conceive similar interrelationships among themselves, with nature and spirits.

Ellen (1996: 104-5) with his model of the cognitive geometry of nature investigates three cognitive axes (dimensions, definitions), inductive, spatial and essentialist constructions of nature. First, the conceptualisation of nature as a collectivity of things, the objectification of the world and inductive construction (unique beginners, life and non-life) is the most obvious in the representations

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impossible to affirm that the will to do engenders the will to know, or vice versa, since both occur simultaneously' (Descola 1994: 214).

of Western science. Secondly, the construction of nature as space that is not human – the spatial other in their immediate living space.

> [It is] implicit in many ethnographically-reported instances of the semantic congruence between forest and nature (Ellen 1996: 110).

This idea he shares with Ingold (1992: 44), for whom nature is a physical world of neutral objects that the observer looks upon as an outsider (reality of the physical world), whereas the term environment literally requires someone to be surrounded, to have a relationship with (reality for the world). Thirdly, as inner essence and force outside human will, but may be influenced and controlled to some extent. Ellen (1996: 105, 112) claims that there are varying degrees to which these axes play a role in a definition of nature, but all three are necessary in mapping out the underlying geometry of nature. Boundary problems and contradictions arise when two or more axes are juxtaposed, which is how we culturally experience nature.

Unlike Descola (1992), Ellen (1996: 120) argues that a grammatical analogy is false, because language 'only mediates' between many cultural appearances. Ellen's model aims to 'go beyond linguistic representation and to situate perception within actions on the world' rather than impose Western nature–culture dualisms on material. His cognitive axes fail to do this, since all people do not conceive nature and forest in this way. For the *junglewala*, the forest is not merely things, but mother and life, and hence it is not a non-human, separate space. Among the Nuaulu of Seram, Eastern Indonesia, the forest is the people, as the ancestors are extensions of the living, whereby Ellen (1996) makes contradictory arguments. Among the Chewong of Pahang, a small group of aboriginal people of the Malay tropical rainforest in Eastern Indonesia, people do not make a forest–village dichotomy, and consider plants, animals and spirits to have consciousness (language, reason, intellect and moral code) (Howell 1984; 1996: 136-40; 1998). The whole forest, including the invisible worlds within and above it, is a cultural space, and living kinds are agents of transitions and transformation. Similarly for the *junglewala*, reality is not divisible into material–immaterial, body–mind, emotion–intellect, but is made up of mutually interacting, fluid living beings and qualities, and human attempts to influence them.

Human ecology aims to go beyond the descriptive work of particularists (uniqueness of each culture) and cultural ecologists (the role of knowledge in adapting to physical conditions) to show interrelatedness and mutualism of environment and culture (Hays 1979; Hunn 1982). Several anthropologists have created metaphorical understandings of subsistence practices that express the nature–culture mutualism (Gudeman 1986; Ingold 1986; Bird-David 1993). Bird-David (1993: 112, 121) argues that hunter-gatherer cultures tend to represent nature–human relatedness with 'personal relatedness', within a 'subject–subject' rather than 'subject–object' frame. Milton argues (1996: 213) that the constructivist view of culture – culture as being composed on 'models'– which is the prevailing model in post-structuralist anthropology, is of limited value in studies of the interaction

between human beings and their environments. The assumption that reality is constructed denies any role for the environment itself. To solve this problem and go beyond the nature–culture dualism and the Descartesian approach to knowledge, Ingold (1992: 44-5) uses Gibson's (1979) concept of 'direct perception': reality is discovered through active engagement with the world, rather than imposing meaning to it. Ingold's (1992: 44) basic thesis is that 'life is given in engagement'. It is through practical engagement rather than cultural construction that people make sense of the world. The synergy of person–environment needs to replace the nature–culture dualism, and this requires to overturn the Cartesian prioritisation of intellection over sensation and cognition over action, because the whole animal perceives, not its mind alone (Ingold 1992: 45).[19] The procurement of subsistence is part of the *junglewala*'s intentional engagement with their environments, although often reduced into behavioural aspects and to external conditions within which practice occurs. Ingold (1992: 52-53) argues that cultural constructions of the environment are secondary to practical action, although such constructions make intergenerational transmission possible. Knowledge of nature cannot be independent of relations with nature. Holistic environmentalism privileges neither the humans nor the environment in which they live.

Metaphors make tacit and practical knowledge active. The constructivist model prioritises metaphorized reality: the world understood through models and symbols. But people are aware of 'unmetaphorized' and 'unconstructed' reality, and anthropologists need to focus on it as the essence of human–environment relations (Ingold 1992). Culture consists of both constructed and unconstructed meanings, and together they can open new avenues for nature–society studies (Milton 1996: 216). There is no 'entirely modelled reality', since this would leave no raw material to construct the models. Nevertheless, anthropologists often treat metaphors or symbols as the main mechanisms through which people build their cultural models.

Peoples' forest conceptions are a vital point of forest–human interactions, since cognition is interrelated with action (Lakoff and Johnson 1980). Classifications of nature, flora and fauna are simultaneously classifications of people (social organisation) and classifications of spirits. Forests are 'good to think with' to grasp the networks of relationships that organise them, and good to use and socialise with as a variety of forest practices show. Forests acquire different meanings depending on who one is and what attention is paid to, such as on everyday provisioning, village protection, the economic value of tree crops, positions of ethnic identity, or relationships with the state. Different agents' representations partially reflect types of use, value, access and control (Fairhead and Leach 1998: 254). Forest practices and attitudes to forests are rooted in material culture and the interaction between imagination, memory and experience in the everyday life and literature (Rival 1998; Bloch 1998; Sivaramakrishnan 1995; 1998). In many cases there is no strict dichotomy between gathering and cultivating (agriculture) rather a continuum of various degrees of managed resources. The *junglewala* make no strict dichotomy between wild, cultivated and cooked foods, as the expression

[19] We know that the brain is inside the head, but do not know where to locate the mind.

'the forest is our *handi*' (rice) shows. The *junglewala* see the forest as a resource for subsistence, commercial and ritual use, and the foresters for timber, revenue and conservation. The partitioning of the forest along culturally conceived lines together with an evaluation of the total forest use and their impact on the ecosystem forest will yield a more detailed understanding (Umans 1993: 18; Chapter 10).

In Vedic and brahmanic India the inhabitable world is divided between *grama* (village, a 'troop on the move') and *aranya* (forest, derives from *arana*, 'strange', which is external to the village). A *vana* (or *bana*) 'territory covered by trees', 'wood', is also translated as forest. In the landscape of Aryavarta arid deserts and mountains are many variants of the forest. The vegetable kingdom and at least the mammals of the animal kingdom are divided across this forest–village distinction (Malamoud 1976; 1996: 75-6). The *junglewala* made this kind of differentiation to several plants and animals directly by naming: one variety grows or lives in the forest and is named *bana-* and another one in the village, and may be cultivated or domesticated, for instance *banasorish* and *sorisa* (mustard), and *banbilei* and *bilei* (cat). The *grama* is sustained by institutions that define the relationships of each individual with everyone else, with the cosmos, and with oneself. This norm, which is at once a system of rules and the world order, is *dharma* (Malamoud 1996: 77).

The *junglewala* identify themselves with the forest (in contrast to outsiders), as well as against it, contrasting their villages and fields with the forest. For the *junglewala*, there is unity in opposition between

world of spirits ----------X---------- world of humans

forest (*jangal*) < ----X---- >	village (*grama*)[20]
gathering,[21] hunting (*shikar*)	agriculture (*chaso*)
dry season	wet season
wild animals (*bara*)	domestic animals (*pasu*); pet (*garami*)
wild	domestic

There is the level of world of spirits and world of humans, and the forest–village relationship is part of this relationship. The village is not the same as the world of humans, but part of the world of humans and world of spirits (X is the same relationship, discussion with Jedrej). *Junglewala*'s cosmovision model reveals an interrelationship of 'horizontal' (forest–village) and 'vertical' (heaven–earth) world. These symbolic poles of a continuum are interdependent in a cyclical process. Sacrifices express this relationship. For the *junglewala*, the forest is not a human artefact, nor a wilderness untouched by humans. There are many similarities with the Lele (Douglas 1957), the Dogon on the border of

[20] In Mundari *hatu* means village and domestic, and *bir* forest and wild. In most rituals *hatu* and *kili* (clan) are interchangeable.
[21] *Jamakariba* means gathering (*Jama* = god of death); *sangraha kariba* means collecting, and *sangrahak* is a male and *sangrahakarini* a female collector.

Burkina Faso and Mali (Van Beek and Banga 1992: 67-73); the Aouan of the Ivory Coast (van den Breemer 1992: 99); and the Malawians (Morris 1998: 121).

In many cultures the wild–tame distinction is gendered: Aouan women are associated with settlement and men with the wild (van den Breemer 1992), and among the Bakweri, on the West African coast of Cameroon, women are associated with the wild, and stay in the forest all day; men are afraid that women do not come back (Ardener 1972: 145). Dogon women's respect for fruitwood fuel is associated with their respect for men, and deforestation is associated with gender power-relations (van Beek and Banga 1992: 57-75). Van den Breemer (1992: 106) argues that 'ecologically destructive processes have their roots in the aspirations towards emancipation' against the socioecological order and ideas that legitimise hereditary leadership and social inequality.

Fairhead and Leach's (1994; 1996; 1998) research on forest–people relationship in Kissidougou prefecture of the Republic of Guinea is helpful, because they emphasise the practical and everyday as well as social and political history in understanding landscape components and ecological processes. Fairhead and Leach's (1996) research on forest–people interaction interweaves historical, anthropological and ecological material, and challenge environmental orthodoxies, such as the persistence of the deforestation orthodoxy (Is deforestation a matter of perception rather than a fact?), and the pattern and direction of the (forest–savanna) vegetation change, intervention imperative, short-termism, and the management models underlying many environment and sustainable development policies. Fairhead and Leach (1996: 10, 14, 287) argue that a more pluralistic ecology (McIntosh 1987), and appreciation of non-equilibrium issues and actual environmental histories, together with land users' perspectives and conceptual frameworks ('landscape readings') provide conceptual space for re-evaluating vegetation dynamics. It provides a framework for re-reading the landscape. Fairhead and Leach (1996: 15) challenge 'which ecological history and local experience and comprehension of it make to these "scientific" meanings.' Elder Toma villagers said that forest islands are 'not relics of destruction, but were formed by themselves or their ancestors in savanna', and associate forest with settlement (Fairhead and Leach 1996: 2, 113). Although forests come and go with human settlement, policy-makers read forest history and landscape backwards in Kissidougou: 'reversing this reading will simultaneously suggest reversals of power' (Fairhead and Leach 1996: 2-3, 15).

Ecology can be socialised so that particular forests patches, sacred groves, trees or other plants are thought of in terms of social processes of which they are a part (Croll and Parkin 1992*a* and *b*; Fairhead and Leach 1998: 267). The *junglewala* experience the land, forest, village and spirits as ontologically part of each other. The forest is a crucial part of the *junglewala* identity in a similar fashion as an Oriyan fisherman identifies with the sea: 'I' is part of the forest and non-isolatable. Expressions, such as 'to belong', 'to live', 'the forest is our mother', and 'we cannot live without the forest', indicate that the environment is internalised, part of the habitus through a direct forest–people interaction. There is no completely isolatable 'I', and to distance oneself from nature is to distance oneself from a part that the 'I' is built up of (Naess 1993: 164). There is rootedness in a place. Instead

of the nature–culture dichotomy, an alternative is reconciliation of two things into one thing, the capacity to return to the whole. The *junglewala* are disposed to associate other domains, levels of experience, and return to the whole. The flora and fauna are apt symbols for interconnectedness. The Santal conceive certain plants and animals as their metaphorical habitats. Women identify themselves with flowers and climbers, and men with certain trees and cuckoos (Chapter 9). The imposition of the sharp forest–village distinction reflects the nature–culture dichotomy and dislocates holistic social and productive systems.

The *junglewala* and foresters conceive the place of human beings in the forest differently: for the *junglewala*, the forest 'mothers' or nurtures humans, and for the foresters, humans can 'father' or nurture the forest, and have paternal pride over protected forests. The former denies the nature–culture dichotomy, the latter has it as an underlying principle. Without the nature–culture dichotomy the civilizing mission looses its motor. Naess (1993: 27) argues that Western ecological knowledge is severely limited, and is concerned with the ecopolitical consequences of ignorance. The nature–culture and individual–society dichotomies hinder ecological understandings and disguise the contextuality of the learning process. *Junglewala*'s cosmovision model offers an alternative to one-dimensional condition of domination and administration, and provides security by reconciling many aspects of life: natural with cultural and cosmic, subject with object, self with other, and living kinds with the dead and unborn. For the foresters, the separateness between the spheres signifies civilisation and emphasises the role of humans. For the *junglewala*, a balanced interrelationship among the spheres means harmony, and they conceive humans in the network of other living kinds. Infertility and calamities, such as floods, famines and diseases, are interpreted as symptomatic of the disruption in the harmony between the nature, humans, and spirits. Several *junglewala*'s forest practices (rituals and sacrifices) reveal respect and fear towards the nurturing and dominating Mother Earth, as well as attempts to protect and maintain the ecological, sociocultural and cosmic harmony.

Narratives about the forest are cultural constructions that emerge out of the diverse practical ways of engaging with the world. Next, a more detailed discussion of ethnobotany reveals its significance in making cognitive maps of nature-culture relationships.

Ethnobotany as cognitive mapping

Ethnobotany reveals diverse attitudes to nature, living kinds and artefacts. Ethnobotanical forest classifications differ from the botanical one, which focuses on biological considerations, by using mixed criteria, such as availability and economic importance of gum-resin producing plants. In anthropological literature there are three approaches to folk classifications: ethnoscientists like Berlin (1992), founder of ethnobiology, symbolist anthropologists like Douglas (1982) and Needham (1973), and more pragmatic anthropologists like Morris (1996*b*; 1998). Berlin emphasises the similarities between folk taxonomies cross-culturally. He conceives classification and plant morphology in botanical terms as taxonomic, being composed of a hierarchy of inclusive classes of organisms, or

taxons of three levels: the levels of unique beginner, basic taxa and life forms (Berlin *et al.* 1973). Classification hierarchy starts from unique beginner (plant, animal), next levels are life form (tree, bush), intermediate (leaf-bearing tree), genus (fig), species (*pipal*), and variety (Lakoff 1990: 33; Atran 1993: 57-9). Berlin (1992) emphasises universality and cognitive basis of folk taxonomic groupings to counter cultural relativism and utilitarian approach (Hunn 1982; Posey and Dutfield 1996). In doing so Berlin sets up nature–culture, theory–practice and science–symbolism dualisms, and treats symbolism and functional concerns as extra-taxonomic, a part of 'second order' representations. Berlin (1992) and Atran (1990; 1993) assume a correspondence between

> phenomenological intuitions – the recognition of natural kinds (morphotypes) – and the basic named taxa of folk biology (Morris 1998: 137).

They refute the utilitarian thesis as cultural. This approach may misrepresent local conceptions and de-contextualise them (Hvinding 1996: 169). Douglas (1982), as a cultural idealist, focuses on symbolic classifications emerging in ritual context. Douglas regards people as having a ritual attitude towards the natural world. Morris points out the limitations of the earlier approaches to folk classifications, and takes into account pragmatic and wider cultural concerns in understanding folk taxonomies. Morris (1996*b*; 1998: 136-38) argues that there are similarities between folk and scientific taxonomies, and symbolic and pragmatic concerns influence taxonomic ordering at the generic and life-form level.

Atran (1990; 1993) and Bloch (1998) aim to analyse the interplay of universal physiological and psychological factors with specific cultural and historical ones, and think of symbolism as a cognitive mechanism with specific functions in the construction of knowledge and memory. Atran claims that the category 'tree' is not defined with reference to the use and function of an artefactual product (timber), but with reference to biological properties. Although goals and interests affect the classification of the species, they do not affect their underlying properties. Based on several studies (Berlin *et al.* 1973), Atran (1993:56-9) suggests that subjects, especially children, treat living kinds in a (ontologically) distinctive way from artefacts, and there is an innate predisposition to constitute the 'living-kind conceptual domain' (natural entities and processes). There is innate ecological knowledge (Bloch 1993: 112), or intuitive ontology (Boyer 1999). Atran (1993: 66-67) argues there is a core of spontaneously learnable knowledge (expressed in folk taxonomies) and a periphery of sophisticated knowledge (cultural elaborations: science, symbolism, pragmatic concerns), which is made possible by the core, although it may elaborate and challenge common-sense knowledge.[22] Although significant part of cognitive development involves linking up of domains, this has been ignored in research until recently.

[22] The passage from representation of knowledge to assimilation of knowledge is often difficult, and sometimes impossible so that some forms of knowledge remain forever meta-representational, forming representations of representations (Atran 1993: 67). For Atran, 'first-order' cognitive dispositions are part of the hominid evolution, and others are secondary cognitive elaborations or 'afterthoughts' (Morris 1998: 137-8).

For Bloch (1998: 53), 'the universality of the conceptualisation of "life"' explains the universal aspects of plant symbolism.[23] Trees are 'good substitutes for humans' (Bloch 1998: 40). Trees are identified with humans, and admired for their old age, self-regenerative energy and self-sufficiency (Rival 1998: 17). Life and death of trees (die standing) and humans are mysterious, and may continue in a different form. Bloch (1993: 118) opposes Fernandez' (1977: 104) view of seeing the relationship of the body to trees as a kind of 'ritual metaphor', because all theories of metaphor imply a fixed relationship between vehicle and principal, while in symbolism the relationship is a continually evolving one, and 'what starts out as a metaphorical parallel ends up as a substitution.' Much (religious) symbolism is concerned with the transformation of metaphorical parallels into substitution, of living kinds into artefacts and sometimes back again. The process of transformation from living kinds to artefacts consists of killing and transforming the trees into artefacts: cutting the tree, drying it, cutting the trunk to pieces (planks) and the making of artefacts. Much of human life depends on this transformation. An underlying principle in this process seems to be that the symbolic plays with the cognitive disharmony between living kinds and artefacts as well as the unity between humans and trees (and other living kinds), and the unity, linguistic and practical, of trees and wood (Atran 1993; Bloch 1993: 119). Another example of this is sacrifice: the sacrificial animal is a metaphorical parallel with the person for whom the sacrifice is being carried out, and as the ritual proceeds, the parallel is turned into a substitution (Evans-Pritchard 1965*b*). The sacrificed living kind is transformed through killing and cooking into an artefact: food. The *junglewala* conceive sacrifices as attempts to please goddesses and gods, and hope to receive their blessings that enable harmonious life. The parallel between sacrifice and tree/wood symbolism are found all over the world, because

> all religious symbolism is about the dialectics of life, growth, decline, reproduction, eating and excreting and about the re-representations of these processes in more or less paradoxical forms (Bloch 1993: 120).

The Santal use both anatomical and taxonomic modes of classification. In the former a given term includes terms that designate its parts:

> human = head and hands and feet
> tree = branches and leaves and trunk and roots

In the latter a given term includes a set of varieties, such as

> human = Indian or Oriya or Santal
> tree = *sal* or *kusum* or neem

Hence, there are

> four types of synecdochic processes: taxonomic generalizing (kind for type) and particularizing (type for kind); anatomical generalizing (whole for part) and particularizing (part for whole) (Sapir 1977: 13-4).

[23] Bloch (1998) opposes the view of Deleuze and Guattari (1987: 15), who see tree metaphors as Western and patriarchal and make an opposition between the Western arborescent model and the Eastern rhizomorphic model.

Moreover, in Santali some human body parts are understood as parts of a tree: hands and legs are 'leaves and branches'.

This ethnobotanical section has shown that representations of forests and plants (including scientific taxonomies) are contextual. Nevertheless, ethnobotanical, -forestrical and -medicinal knowledges are usually understood as local knowledge in a wider context. In the next section I aim to shed a little light on reconceptualising the local knowledge-Western scientific knowledge dichotomy.

Reconceptualising the local knowledge–Western scientific knowledge dichotomy

Since representations of forests and plants are contextual and socially differentiated, the uses of local knowledge and Western scientific knowledge are misplaced. I reconceptualise the local knowledge–Western scientific knowledge dichotomy to go within and beyond the dualistic knowledge-colonialism, and from the growth of ignorance (Hobart 1993) towards the democratisation of knowledge.[24] The sociology of scientific knowledge shows context-boundedness of all knowledge (Barnes and Bloor 1982). All knowledge is linked with locality: situated knowledge. The locality is constituted in social relations connecting people, places and things as produced, reproduced, transformed and negotiated. The locality of knowledge may be material and ideal, geographical or ethnic territory, political, religious or structural boundary (Brokensha *et al.* 1980). Both on- and off-site agents define locality, and these may contradict each other. Locality is defined by local ideas of belonging and community, and off-site agents defining some 'others' as 'locals'. I hope to shed light on the possibilities of situated knowledge and *in* and *ex situ* knowledges of the locality concepts to go within and beyond this hierarchical, essentialist and ethnocentric dichotomy and create an integrated understanding of forest practices in Mayurbhanj. There are two overlapping aspects (not hierarchically opposed) to the knowledge of the locality: *in situ* or on-site agents' knowledge and *ex situ* or off-site agents' knowledge. The former emphasises knowledge *in* and *with* the locality, and the latter knowledge *on* and *over* the locality. On- and off-site knowledges of the locality are integrally related and interactive. Implicit in the knowledge of the locality concept is my argument that other people call for respect and understanding within, they do not necessarily call for change as aid or development as government policies and officials and many NGOs claim. I emphasise the importance of learning from different agents. My aim is not to promote one knowledge system over another, since there is no understanding that is beyond history and society (Foucault 1980).

Indian governance is grounded on Western models of modernity, and many possibilities of plural development of social identities are downplayed (Chatterjee 1993: 156). With the rise of *ex situ* knowledge of the locality construction, control and dissemination (between different networks of agents and organisations), *in situ* knowledge of the locality became increasingly de-recognised, de-legitimised and confined to the personal domain of people. There is differential access to both resources and knowledge. What became certified as knowledge was produced in recognised

[24] Hobart (1993) points out the growth of ignorance the more the era of Western scientific knowledge reigns.

knowledge producing institutions (schools, universities) and represented by qualified persons in the dominant language and in a printed form, despite the use of vernacular languages and high rates of illiteracy. Nevertheless, Mahatma Gandhi's principles (village autonomy) and contemporary measures to institutionalise new forms of the *Panchayati Raj* focus on the sustenance of grass roots democracy.[25]

An interest in other ways of conceiving initiated anthropology. Anthropologists analysing alternative conceptions, worldviews and cosmovision models have shown that boundaries between science, magic and religion are ambiguous and contentious. Science is an ambiguous truth, 'today's science may be tomorrow's pseudoscience or vice versa' (Nader 1996: 2). Science is not merely a means of categorising the world, but may exclude other knowledge systems, because it is privileged and idealised (Nader 1996: 1-3). In anthropology there are three main research directions on knowledge: one continuing Malinowski's earlier work by describing knowledge (Berlin *et al.* 1974), the other direction is the ethnographic research of the sociocultural context of Western science (Escobar 1995), and the third direction constitutes a strategy and it links different knowledge systems (Nader 1996: 23). In this dissertation I hope to combine these directions: I describe various forest knowledges and analyse their sociocultural contexts and interrelationships between them. I investigate the possibilities of knowledge which

> includes the awareness that it is from a particular point of view, and knowledge which grants that other points of view can be legitimate (Lakoff 1990: 261).

The underlying principle is that all knowledge is situated knowledge, and sometimes it is helpful to think of this with on- and off-site agents' knowledges of the locality. Both *ex* and *in situ* knowledges of the locality are experimental (gained through direct face-to-face encounter with persons, places or things), practical (skill, competence, how to do something),[26] propositional (knowledge about something, theories) and presentational: the process by which experimental knowledge is ordered into patterns, expressed in creative imagination, and hypothesis testing (Heron 1996: 52-7). In Mayurbhanj, many on-site agents are illiterate and rely on face-to-face interactions and their experiences to form their knowledge with the locality. Many off-site agents are literate and rely on formal institutions to provide them with knowledge over the locality. Scientists have assumed that true knowledge of environment comes from detached observation; the environment is seen as a 'globe', an impenetrable object that can only be viewed from without (Ingold 1993: 35, 41). On-site agents derive their knowledge of the environment by experiencing it from within through engagement in a lifeworld.

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[25] The *panchayat* system of government refers to the elected three-tier structure of local governing bodies from village to district level: *gram* (village; ward), *samati* (block), *zilla* (district). A *panchayat* is a village-level elected government, representing a number of revenue villages.

[26] Bloch (1991: 187) emphasises the importance of practice over language in expertise, giving the example of a Malagasy farmer choosing a forest for 'good swidden'. This complex process – comparing a mental model of a good swidden to the image of forest (vegetation, slope, hydrology) – may be done in minutes. Bloch (1991: 191) calls this 'multiple parallel processing'; it is not a simple comparison, because it involves the mental processes running down a single line of analysis. Another example is *junglewala*'s conceptions of 'good forests' in relation to the place and the availability of forest produce in quantitative and qualitative terms. Much knowledge is fundamentally non-linguistic, knowing by doing.

Sillitoe (1998) claims that local knowledge and Western scientific knowledge may be understood as ideal types at different ends of a continuum. Sillitoe considers the differences between them as matters of degree rather than totally different kinds of knowledges. DeWalt (1994) proposes that local knowledge and Western scientific knowledge are based on different kind of principles, and are complementary forms of knowledge. Scoones and Thompson (1993: 18), Agrawal (1995) and I focus on similarities, because *ex* and *in situ* knowledges of the locality follow most of the time a positivist mode of inquiry (hypothesis testing).

Agrawal (1995: 418) questions three presumed differences between local knowledge and Western scientific knowledge: substantive, methodological and epistemological (worldview), and contextual differences. For Agrawal (1995: 433), there are 'multiple domains and types of knowledges, with differing logics and epistemologies', and this allows the recognition of intra-group differentiation. Depending on the manner knowledge is generated, who advances knowledge or its utility, the same knowledge can possess high or low prestige (Agrawal 1995: 423). The declared aim of the local knowledge discourses is to increase the status of the local knowledge, but implicit in this discourse is the dichotomy between 'us' having Western scientific knowledge and 'them' having local knowledge, although both have knowledge of the locality. Most local knowledge studies (Brush 1993; Warren *et al.* 1995; Blaikie *et al.* 1996; Sillitoe 1998) have a belief in the superiority of science at least as *ex situ* conservation with the archives of knowledge, although no knowledge can maintain its vitality in archives.[27] In relation to methodological and epistemological differences, although many philosophers of science have abandoned any hope for a satisfactory methodology to distinguish science from non-science, Howes and Chambers (1980) and Horton (1970) argue that local knowledge is closed and Western scientific knowledge is open.[28] This close–open dichotomy has an implicit meaning of social evolution, where local knowledge needs to catch up with the Western scientific knowledge. A persistent view that intellectual aid and useful knowledge are able to make people free rather than dependent (Schumacher 1973: 165) has been challenged by pointing out the significance *in situ* knowledge of the locality in technical innovations (Chambers 1983; Richards 1985; Warren *et al.* 1989). Richards (1985: 11-2) draws parallels with the attitude towards technical knowledge during the colonial rule: colonialists, convinced of their superiority, failed to understand how place-bound their own principles of environmental resource practices were and the extent to which practices of the locality were effective and 'good science' in that place. Richards argues for 'ecological particularism' and emphasises the need to decentralise science by focusing less on universals and abstractions and more on 'situation-specific' and 'development-relevant' local understandings.

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[27] Most local knowledge advocates argue that local knowledge should be handled as Western scientific knowledge: gathered, documented, disseminated in a systematic fashion and archived in national and international centres as databases, and used for development. These archives of *ex situ* conservation remain non-accessible to the 'smaller users' (having no access to the particular language, the centre and/or the computer-based information) and succeed merely in 'creating a mausoleum for knowledge' (Agrawal 1995: 432).

[28] Many differences that Horton uses to characterise open and closed systems of thought relate to the presence or absence of writing (Goody 1966: 37-44). Literacy allows representations or knowledge more scope over direct experiences or practices. Nevertheless, there is knowledge is practice, literate or not.

What is today classified as local knowledge has been in interaction with Western scientific knowledge since at least the fifteenth century, and is not isolate from broader economic and global processes (Wolf 1982; Fairhead and Leach 1998: 267). Because of the heterogeneity among the elements, boxes marked local or Western cannot be separated (as independent) and fixed (as stationary and unchanging) as time and space systems (Agrawal 1995: 421-2). Even researchers who support the dichotomy admit that the distinction does not hold (Blaikie *et al.* 1996: 3). Different knowledges (some subjugated) co-exist and interact in a particular locality both in the North and South. Knowledge in different disciplines varies, and also within a discipline there are significant internal differences, such as within anthropological 'we' (anthropologists of the North and South and their political commitments), and even within a Department of Anthropology, whereby it is difficult to discuss of a monolith of the Western scientific knowledge (Nandy 1988; Apffel Marglin and Marglin 1990; Nelson and Wright 1995). The local knowledge–Western scientific knowledge dichotomy denies pluralism between groups and within a group. For example, the expression knowledge common to the *junglewala* or to the Santal is more exact, but even these downplay social difference and diversity in knowledge among the *junglewala* or the Santal.

All knowledge is contextual, some knowledge is transcontextual or has utility outside specific places. In the context lay both the strengths and weaknesses of knowledge, and the localness provides the basis for comparison. Theorising is a local practice; it is an aggregate of heterogeneous (inherently) local practices. The power of Western scientific knowledge depends on diverse social, technical and literary tools to move and apply knowledge beyond the site of its production (Turnbull 1994: 32, 37, 48). Most local knowledge studies aim to make local knowledge global. Turnbull argues that this elimination of the local has resulted in environmental degradation and ethnocide, but this contradicts with his understanding of theorising as local practice – locality cannot be eliminated. *Ex situ* knowledge of the locality may have no utility outside the gates of universities, although the term university implies universal knowledge. Moreover, people incorporate and reinterpret knowledge, such as the Jharkhand movement revitalising *in situ* knowledge of the locality to support their demand for self-rule. Western scientific knowledge has gained its truthlike character through suppressing the circumstances of its production and through its transmission and authorisation by the scientific community (Turnbull 1994: 48).[29]

Scoones and Thompson (1993) see two distinct approaches representing points on a continuum in the local knowledge studies. The first is the 'populist approach', which analyses and interprets the validity of agroecological and sociocultural beliefs, concepts and practices, using the conceptual apparatus of Western scientific knowledge (Latour 1993; Blaikie *et al.* 1996). It aims to

[29] Knowledge can be transferable and transcontextual (across time, space and societal settings), as education shows, but there is also non-transferable knowledge. For example, forest practices of the Northern hemisphere applied in the tropics sometimes cause problems, such as erosion making regeneration difficult. Western scientific knowledge aims to go beyond the local with scientific methods and is widely believed to do so. To be initiated to this knowledge, years of education and training are required. Some *junglewala*'s knowledge aims to go within and beyond the local with cosmic powers that they conceive to come from the spirits. People, especially healers, diviners, shamans and priests, may believe that through acquiring this knowledge they can transcend their human condition.

empower local people and 'blend' it with formal Western science. Most local knowledge discourses share the implicit assumption that it is possible to integrate (extract and incorporate) local knowledge into existing Western scientific knowledge procedures. Some scientists pluck information out of the cultural context and treat it as independent technical facts and constrain understanding to measures and words of another language. To cut practices from their real conditions of existence dispossesses them from their reason and essentialises them as mentality. According to the second 'political-economic approach', the cross-cultural study of agroecological and sociocultural beliefs challenges the basic conceptual apparatus and certainties of the Western scientific knowledge.[30] Hobart (1993) and Scoones and Thompson (1993) are interested in the possibilities to generate the synergy (an output which is greater than the sum of its parts) flowing from a combination of perspectives. Scoones and Thompson (1993) challenge the populist perspective and its assumption of the common goal, and argues that there are differentiated interests, goals, power, and access to resources between agents and networks.

I classify three approaches of knowledge: contribution, empowerment and cultural relativist approaches. In the contribution approach predominant *ex situ* knowledge of the locality contributes to *in situ* knowledge of the locality. It is an etic interpretation of knowledge relying on formally educated specialists, and supports the local knowledge–Western scientific knowledge dichotomy and Western scientific model. In the empowerment approach local agents work within the existing system of *ex situ* knowledge of the locality and blend their knowledge with it and emphasise their interests. The old formulation of 'growth with social justice' has transformed into 'development with empowerment', but remained tainted with paternalism. It is primarily an etic interpretation of knowledge; it blends local knowledge and Western scientific knowledge, but remains within the Western scientific model. Their representatives work on and over the forest, culture over nature, subject over object, self over other, and living kinds over dead and unborn. Both contribution and empowerment approaches follow a positivist agenda centred on structure, and are used to promote *ex situ* conservation. They turn local knowledge into global knowledge, and local forests into global forests. In the cultural relativist approach *ex* and *in situ* knowledges of the locality are equally important. On-site agents claim equal rights to their knowledge and may challenge *ex situ* knowledge of the locality, the dualist ordering of thought and Western scientific model. It combines emic and etic interpretations of knowledge rather than dichotomises them. Its representatives work in and with the forest, culture with nature, subject with object, self with other, and living kinds with dead and unborn. It concentrates on actor and is used to promote *in situ* conservation.[31] Agrawal (1995: 432) and I argue for *in situ* conservation, which cannot succeed without local inhabitants gaining control over the use of lands in which they dwell and the resources on which they rely.

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[30] On-site agents may not be aware of off-site agents theories and discourses, and hence it is the off-site agents, who may interpret them as challenging.

[31] Traditional common knowledge knows no innovators, and the multinational companies can discover and be the Columbus of today. But whose interests does it serve to place knowledge behind the glass in museums or on CD-ROMs?

From an anthropological perspective both the contribution and empowerment approaches are problematic, because of their ethnocentric judgements and social-engineering implications (Nelson and Wright 1995; Rowland 1995). According to the cultural relativist view, people should be left to their own devices to solve their problems (Chambers *et al.* 1989; Scoones *et al.* 1994).[32] Often the role of anthropologists is to be interpreters conveying *in situ* knowledge of the locality to off-site agents. Sometimes this brokering may render on-site agents to further exploitation. For example, I blend *adivasi* knowledge of medicinal plants with botanics to cross-check the vernacular names. By showing the *adivasis*' detailed knowledge of medicinal plants, I may be considered to empower them by giving them recognition as agents in knowledge making, or expose their knowledge to possible further exploitation by pharmaceutical companies, or challenge the certainties of the Western scientific model.

Salmond (1982) discusses the knowledge in the West and among the Maori.

> The English metaphor *knowledge is a landscape* suggests that knowledge is something inexhaustible, based on a "ground" that can be worked and reworked [and viewed from different viewpoints] (Salmond 1982: 82).

This metaphor entails that knowledge is territory (a landscape to be explored, conquered and controlled), journey (destination), sighting (understanding is seeing), facts as natural objects, and the mind is a container (storing knowledge). Whereas the Maori metaphors of knowledge (*maatauranga* or *waananga*) draw upon notions of *oranga* (necessity for life) and *taonga* (cultural wealth), and knowledge is depicted as finite, destructible, and guarded by chosen individuals reluctant to 'give it out', as esoteric knowledge (Salmond 1982: 82). Maori knowledge consists of folklore, incantations, genealogies, myths, ritual performances, and language itself. It is fused with places and objects, such as chiefs' houses and property belonging to a descent group.

> Westerners distance themselves from the objects that become colonized as knowledge; Maori fill objects with existing time-hallowed knowledge (Parkin 1982: xxx).

The two epistemologies converge in some respects, but much is distinctive (Parkin 1982: xxix). Salmond's (1982: 85) cross-cultural account of knowledge suggests 'a position of limited relativism'. The Western conception of knowledge, based upon a metaphorical set that Maori speech does not share, is not a universal, although the way it works has some parallels (spatial existence) in Maori practice. Salmond questions the epistemological status of theory itself. Thought cannot be separated from observation, since thinking is articulated in the visual idioms of surveying and speculating on domains (Parkin 1982: xxix-xxx). The Maori and Santal cultures originate from the intended acts of some ancestors and goddesses and gods (and people's identification with them). The Western scientific knowledge epistemology differs from this only in that it regards some people as theorising

[32] Nevertheless, it is not only a question of being fed (contribution approach) or eating oneself (empowerment approach), when there is no food to eat (cultural relativist approach). Cultural relativism is an interesting idea, but implementing it to the full, would mean that many people die of hunger, of inadequate health facilities or that their possibilities to gain symbolic capital by education are blocked.

subjects and others as theorised objects. A tolerant society encourages intersubjectivity (Merlau-Ponty 1962) and the subject–object reversibility (Parkin 1982: xli).

In both nature–culture and local knowledge–Western scientific knowledge discourses, there has been a tendency to move from a dichotomy and absolute distinctions to a continuum (of the same substance that maintains the opposition between the ends of the continuum). If nature and history are taken into account, these dichotomies do not hold. Maturana and Varela (1992: 234, 253) argue that knowledge is a relationship with nature that is constitutive both of the knower and the known. This interactional, 'relationist' conception of knowledge offers a way within and beyond the paralysing deadlock between objectivism and relativism.

> [It suggests] a rapprochement of subject and object that might restore a sense of involvement and responsibility to the production of knowledge (Hornborg 1996: 52).

It encourages intersubjectivity. Knowledge *over* indicates a subject–object relationship and controlling knowledge, whereas knowledge *with* indicates a subject–subject relationship, interrelatedness, and a sense of the whole being greater than the sum of the parts.

Forest knowledges

I shall investigate the co-existence and confrontations of different types of forest knowledges. First, I examine three types of agents' knowledges: basic core, shared, and specialised forest knowledge (Warren 1998: 244). Basic core, general or community knowledge possessed by practically all members of a community provides the basis for communication of a topic. Shared knowledge expands on the core knowledge and allows persons of related occupations to communicate in more specialised ways. For instance, the blacksmith making hoe blades for farmers needs to know of soil types. Specialised knowledge exists within an occupation. Because of unequal distribution of knowledge, some individuals are regarded as specialists, and the transmission of knowledge has a political dimension.[33] The foresters' shared knowledge focuses on commercial forestry, and specialised knowledge is knowledge of different disciplines and 'experts' of particular area, or Wing. The *junglewala*'s shared knowledge covers subsistence forestry, livelihood and ritual knowledges, and specialised knowledge is that of different specialists, such as ritual and medicinal specialists. Some studies concentrate on the knowledge of the specialists (De Walt 1994: 129), but I argue that it is important to investigate general, shared and specialised knowledges. To privilege some knowledge over others extends power to those who hold that knowledge. Moreover, it hinders anthropological attempts to understand underlying beliefs and experiences.

[33] Knowledge can be public, official, codified, agreed, recognised and loaded with culturally constructed hidden meanings. Knowledge transmission may be hidden or muted, influenced by differential access to and control over public discourse, which may also take a form of gossip, jokes, folktales and songs. Generally, the more formal the transmission the more restricted is the access to knowledge; the more casual, the more open (Narotzky 1997: 22). Some forest knowledge is circulated through formally recognised institutions (teaching), others through practices, daily activities, storytelling and working with older people and/or specialists.

Secondly, I analyse different agents' botanical (ethnobotanical, silvicultural), pragmatic and symbolic forest knowledges. The foresters having training in forestry and Western scientific forest management conceive the forest consisting of major (timber) and minor forest produce. They classify forests in terms of total biomass, crops and productivity. They make silvicultural classifications of different types of forests: moist deciduous forests, clear-felled, bush, regenerating and *sal* forests. The foresters have two main (somewhat contradictory) interests: forest conservation and contribution to state revenues. The key elements of Western forestry are scientific rationality, quantitative measurement, emphasis on physico-chemical material, and the linear and dualist ordering of thought. These are part of wider set of ideas: the belief that humans can (with scientific silvicultural knowledge) control nature, the assumption that controlling nature is desirable and good, and the belief that progress depends upon scientific knowledge (Worsley 1997: 169; Lomnitz 1981: 49).

The *junglewala* classify forests with reference to places, myths, folklore and the uses of forest produce. They often know the what, the where and the when of the plants and animals (Chambers 1983: 89). Some social customs, traditions, beliefs, values and myths have helped the *junglewala* to balance the ecological and human needs. The *junglewala* work with the forest and conceive their knowledge with the forest, whereas the foresters work over the forest and conceive their knowledge over the forest.

Mismatches of worldviews and cosmovision models

I investigate the range of ideas that different agents hold about forests, forest practices and livelihoods, as indicative of their worldview (ways of seeing) and adjacent idea of the cosmovision model. A cosmovision model is a repository of cultural practices, beliefs, values and meanings, and includes the conceptual and affective configurations within which the agents make sense of the world. A cosmovision model enables the exploration of the constraints on and possibilities in anthropocentric (human-centred), biocentric (humans as only one element in the ecosystem) and theocentric (spirit-centred, such as sacred groves) forest practices and conceptions. Anthropocentric forest practices regard humans as the central fact of the universe to which everything else refers to. Anthropocentrism is species-narcissism: forests of the people, by the people, for the people and with the people. Biocentric forest practices centre on life, and regard or treat life as a central reality. Theocentric forest practices centre on spirits, having goddesses and gods as its centre.

Worldviews contain four structural elements: cosmology (affective and cognitive meanings attached to observations people make of the world), ethnos (values, such as the nation-state and sacraments), dynamic principles (of internal motion making the worldview function as a psychic, social, physical and biological reality, such as Newton's concept of gravity), and telos or goals, such as the Hippocratic oath (Counelis 1984: 211-2). Counelis defines a worldview

> as a function of the intersect between cosmology and ethos held and practiced by persons within the bounds of a particular time and place with the intersect directed towards particular goals or telos (1984: 212)

A cosmovision model refers to multiple ways humans comprehend natural (ecological conditions and material essences: land, forest, flora and fauna), human (human body, human community, individual, social and cultural history, social identity, person, group norms, and relations of governance) and cosmic (worldviews, cosmology, and how myths and beliefs are made and remade in everyday and ritual practices) spheres and their interrelationships. A cosmovision incorporates the intuitive–supernatural and the matter-of-fact rational. Cosmovision models help to create and maintain social systems. I classify two main cosmovision models: foresters' and *junglewala*'s cosmovision models, which do not operate in isolation, and are dynamic and redefined. I examine the co-existence and clashes of different practices, conceptions, worldviews and cosmovisions, and how they are expressed in the contemporary forest protection movement.

Douglas' *Animals in Lele religious symbolism* (1957) is a key early study of the interaction between human, animal and spirit spheres. She treats hunting as a touching point of the spheres. Besides the primary object, the supply of meat, it embeds human aspirations for food, fertility, health and longevity, and is controlled by the spirits and influenced by sorcery. Similarly in Mayurbhanj, *junglewala*'s forest practices embody certain assumptions about the interrelationships of plants, animals, humans and spirits. All living kinds make a single whole. Some agents, such as totemic plants and animals, ritual specialists (*dehuri*, priest, worshipper, spiritual leader),[34] medicinal specialists, such as *kobiraj* (herbalist) or *kuni* (spirit-healer, medicine-man, shaman, who often uses herbs), have key positions of influence in trying to have a delicate balance and mutualism among living kinds in natural, human and cosmic spheres.[35]

According to Turner (1967), the Ndembu in Zambia experience human society as part of the orchestration on a cosmic scale, and to symbolise this they fasten on the colours of the juices in the human body (black bile, red blood, white milk) and in the earth (black earth, white and red clay) and trees (charred black wood, red resins, milky saps) meanings that make a complex representation of male and female spheres, and destructive and nourishing powers (Douglas 1982: 10-1).

Drawing on the *Upanisads* (1978) and *Rg Veda* (1877), Lincoln's (1986: 31-3) research on cosmogony (the creation of the universe), anthropogony (the creation of humans) and homology between microcosm (bodily parts) and macrocosm or corresponding parts of the cosmos, such as bone–stone, hair–plants, semen–water, eyes–sun and head–heaven, provides another dimension of the importance of cosmovision models.[36] The material substances common to both microcosm and macrocosm alternate endlessly. *Purusa* (man) is established out of five parts: hair, skin, flesh, bone and marrow (Atareya Brahmana 2.14, 1976; Lincoln 1986: 212, fn. 43). According to the *Satapatha Brahmana* (7.1.2.1., 1964) *Purusa-Prajapati*'s (the first man) dissolution correlates with the three

[34] To reduce confusion I use *dehuri* for all *adivasi* ritual specialists, although for example, Santal *dehuri* is *naeke* in Santali.
[35] In mutualism individual and collective well-being is attainable only by mutual dependence, which in biology is called a condition of symbiosis.
[36] According to a Santal folklore, *sabai* grass originated from human hair (Bompas 1909: 102-6). In rituals the *dehuri* eats the heads of the sacrificed fowl.

vertical levels of the Indian cosmos: heaven, atmosphere and earth (Lincoln 1986: 79).

	Prajapati	
semen	breath	rest of body
sun	wind	food
heaven	atmosphere	earth

Prajapati's body is perpetually being 'reassembled', through the mediating agency of the sacrificial fire (Agni), 'the mouth of the gods'. To produce fire, one needs heat (from the sun), oxygen (from the atmosphere) and fuel (wood and fluids of the earth). In a broader sense, they constitute the fire's sustenance.

> [When] the fire eats these items, Prajapati is restored to wholeness, for through the action of the sacrificial fire, the sun is changed back into Prajapati's semen, the wind into his breath, and the food or fuel drawn from the earth into the rest of his body (Lincoln 1986: 80).

When analysing other cultures, the Western causal, utilitarian and rational elements are assumed to be their essential core, despite what people state and do. In the process, usually the capacity of people to model their behaviour and make local constructions that cannot be reduced to the logic of capital, modernity (Escobar 1995: 94-5) or the dualist and linear ordering of thought have been ignored. Since Ricardo in Western models securing a livelihood is modelled as a teleological or means-to-ends relationship (Gudeman 1986: 155). Although neo-classical economic theory tried to abandon metaphor and knowing subjects, anthropologists have employed it and its derivative substantivism, often represented as an alternative perspective. To use derivational model universally is problematic, since there is no assurance that all cultures are organised according to the Western pattern.[37] Other models may be

> characterized by feedback, part of the whole relationships, overlapping categories, inversions or transformations (Gudeman 1986: 30-2).

Gudeman (1986: 157) sees 'imperialism [...] in terms of who gets to model whom'. The images of the universalist modeler may create their own reality that make other cultures 'to resemble our own axioms' (Gudeman 1986: 30). A starting point is to examine *junglewala*'s forest practices, knowledges, worldviews and cosmovision models.

The 'pleasure' and ritual activities of the Santal express their metaphysics, as do those in the *Bwiti* among the Fang in Assok Ening, a village in the Wolen-Stem region of northern Gabon, in the Equatorial rain forest, West Africa (Fernandez 1982: 573). Worldviews are contained in the different modes: songs, myths, symbols, and the sermons. Symbols do not have to be accurate to be effective as symbols (Douglas 1957: 56). Symbols have a 'plenipotentiary quality' that go within and beyond the one-dimensional condition of domination, and appear to reconcile many aspects of life which have

[37] Western models have a 'derivational' pattern, typically consisting of a set of axioms, operational rules (causal) and 'derived "theorems"'. Derivational models are intrinsically tautologous and self-referential, since the derived results mirror the beginning propositions. If the materials do not reflect the axioms, the model is faulty (Gudeman 1986: 29).

fallen apart: the dead with the living, men with women, children with parents, the past with the present, and the villagers with the forest. Sermons suggest an overarching integrity of things, a sense of the whole, and a logically coherent cosmology by 'the argument of images' (Fernandez 1982: 564, 546, 571). Illiteracy may encourage this orientation to images and iconic thought that points to the whole. Iconic thought is most suggestive of the coherence and fullness of experience, and is most useful to microcosmogony.[38] It leaves a lot of interpretation to the audience (Fernandez 1982: 569-70).

The search for general principles is similar to that of science, but rather than verifying them with words, Bwiti work with puzzles (Fernandez 1982: 571-2). 'The edification in that puzzlement is cosmogonic' (Fernandez 1982: 573), so it is with the *junglewala*. When one domain of experience is used to comment upon another, a transcendent sense of their relatedness is created.

> What was only a similarity in domains of experience is transformed into a contiguity. One achieves a higher sense of coherence. [...] This transcendent sense of the relatedness of things is an inevitable consequence of analogic thought and the argument of images (Fernandez 1982: 573).

There are four kinds of coherence in *junglewala*'s thought. The *junglewala* transcend dualistic sidedness. They link levels and spheres of experiences (the natural with the cosmic), since polyvalent images reverberate at various levels. Archetypical thought (of the collective unconscious and deep mental structures) is time-binding: archetypal events or persons of the past manifest themselves in the past, in the present and in the future. The insistent complementarity forms the fourth kind of coherence, as the complementarity of men and women to create new life. Although they resemble the dualist ordering of thought, they are not seen inseparable from the greater whole. A cosmology discovers a higher principle of complementarity, which demonstrates that the opposition or contradiction is only apparent.

As maps of the dissertation the following diagrams of nature–culture relationships and cosmovision models will guide to the more detailed discussion of specific aspects in them. Ecological reductionism and cultural reductionism (or determinism) are two approaches of the Western scientific model that are based on the nature–culture dichotomy and overlook practice (Descola 1994: 2-3). In the nature–culture interrelatedness model humans and environment co-exist and shape each other (Milton 1996: 40).

In the foresters' dualist cosmovision model the relationships are *between* spheres, which indicates separateness and disengagement, whereas in the Santal one (as an example of *junglewala*'s cosmovision model) they are *among* spheres indicating interdependence, engagement, and mutualism and reciprocity among living kinds and spheres.[39] The overlapping areas are the most interesting to

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[38] Thought emphasising images 'is a devaluation or a rejection of language-based thought and the discursive reason that lies in it and that has been the intellectual power tool of modern technical-rational man. [... It] resembles the "imagist" thought of the symbolist movement in literature or the more contemporary Theatre of the Absurd. [...] It is thought which, when it appears in modern guise, is labelled "decadent", "mystical", "primitive" (Fernandez 1982: 569-70).

[39] If the foresters' cosmovision model is drawn as three interrelated circles overlapping natural, human and cosmic spheres in the centre there is nothing, whereas in the *junglewala*'s cosmovision model the central myths, rituals, institutions and persons are there.

analyse the interactions and boundaries between and among them. The cosmic sphere is the sphere of goddesses, gods and spirits, and in it material and immaterial, myth and reality, verifiable and non-verifiable intertwine. The interaction among human and cosmic spheres involves humans, ritual and medicinal specialists and spirits. The interaction between natural and cosmic spheres is expressed in many myths and folksongs, which include transcendental movements of plants, animals, mountains and rivers into spirits, and vice versa.

The overlapping area between natural and human spheres deals with forest use and conservation. For the foresters, it means forest administration and law, forest management, silviculture, timber-oriented forestry, crop harvesting, sustained yield, restricted forest access and use, FPC and VSS activities, and awaring and educating people of the importance of conservation. The concept of forest management emphasises the role of 'man' in the forest: there is no man-agement without a man. Foresters' forest practices refer to the (somewhat detached) paternity of the foresters, and *junglewala*'s forest practices to the maternity of the forest. *Junglewala*'s forest practices do not affirm human supremacy, because humans are seen as a factor among others.

For the Santal, life and its processes link living kinds. Life is lived in a cosmos or lifeworld of living kinds in the centre of the interrelated and overlapping natural, human and cosmic spheres, as opposed to a global perspective when life is lived on the surface of the world, as the foresters conceive the world (Ingold 1993: 32, 37, 41). To maintain the natural sphere, a source of sustenance, in a good condition, the Santal and their ritual (*dehuri*) and medical specialists (*ranrani, ojha*) make sacrifices to spirits to receive their blessings that make life possible. The Santal attribute a human form or character to plants, other animals, deities or abstract ideas in several forest practices; they conceive and represent other living kinds as anthropomorphic. Some Santal forest practices are zoomorphic: they attribute an animal form or nature to a deity or non-human agent. For most foresters and environmentalists, anthropomorphic and zoomorphic forest practices are irrational. They regard these as 'blind beliefs', religion or superstition, and focus on the natural sphere. They reduce Santals' forest practices, their cycle and web of life worldview and cosmovision model emphasising the interrelatedness of spheres to religious aspects of forest management, rather than conceiving them to express an alternative worldview and cosmovision model that challenges the dualist and unilinear ordering of thought and discourses of forest management and development. This is a reduction in the sense that religion is seen as a separate sphere of cosmovision rather than belonging to the overlapping area of natural, human and cosmic spheres.[40] This kind of interpretation remains within the dualistic thinking and Western scientific model that validate natural, cultural, cosmic distinctions as the only ones making sense.[41]

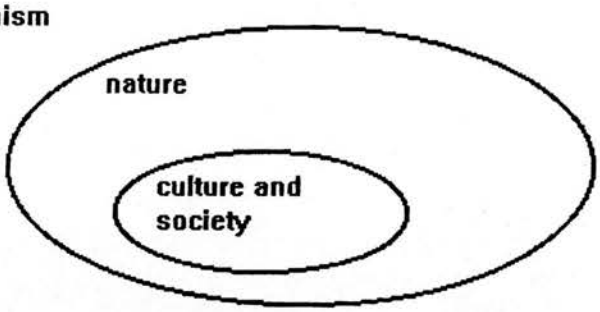
[40] *Junglewala*'s theocentric forest practices appear to imply theocracy, a priestly order exercising political or civil power, but since the natural, human and cosmic spheres are interrelated to separate something as merely religious distorts their understanding of forest practices and cosmovision model. For example, sacrifices imply theo-anthropomorphic conception: pertaining to gods in a human form.

[41] Currently, the foresters do not receive any training to understand *junglewala*'s forest practices, and if these are included in foresters' training, it may initiate some changes in foresters' attitudes towards nature and the *junglewala*.

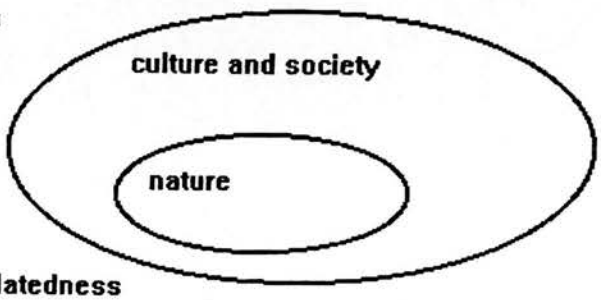
The Santals' cosmovision model implies nature–culture, forest–village, object–subject, mind (thinking)–body (doing) continuums and the conjunction of the spheres. Universal parents (the sun and the earth), *akhand sikar, jagarthan* (sacred grove), *sasan* (bone burial ground); *akhara* (dancing or assembly ground), cosmogonic tree celebrations (tree-feasts, -marriages, -offerings, -worship, *sal*-tree-as-god, god's dwelling, tree spirits, tree as oracle, roots to underworld), cosmic myths, totemic clan system, sacrifices, ritual killings, several rituals relating to agricultural and forest calendars, expressions (*Indra muta, Iswar dutt*), metaphors (the forest is mother, the forest/tree is life) and humans' metaphorical habitats in plants and animals (men metamorphosed into cuckoos) are indicative of the cycle and web of life worldview, and the interrelatedness of living kinds in natural, human and cosmic spheres. Plants and animals, as living embodiments of spirits, may refer to continuities among persons, species, and material (human) and immaterial (divine) worlds. In the Santals' cosmovision model the lives of the living kinds are tied together in a non-dualist, non-linear cosmogonic space–time continuum.

Diagrams of nature–culture relationships and cosmovision models

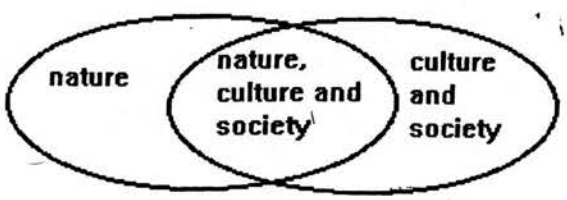
Ecological reductionism



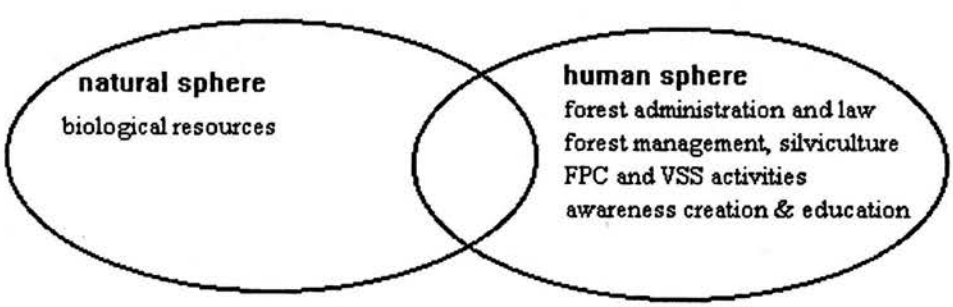
Cultural reductionism

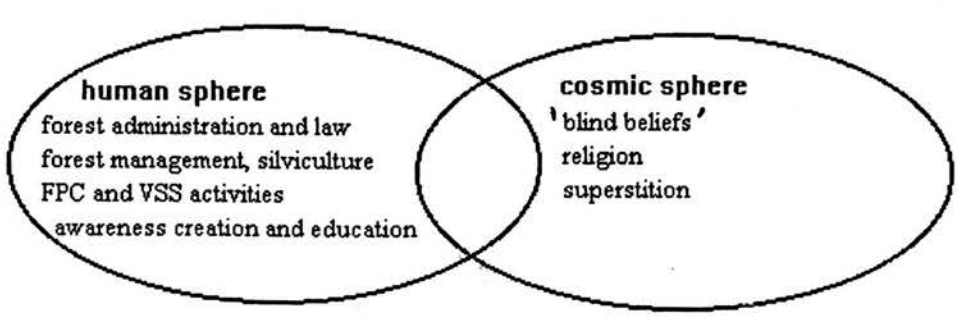


Nature-culture interrelatedness

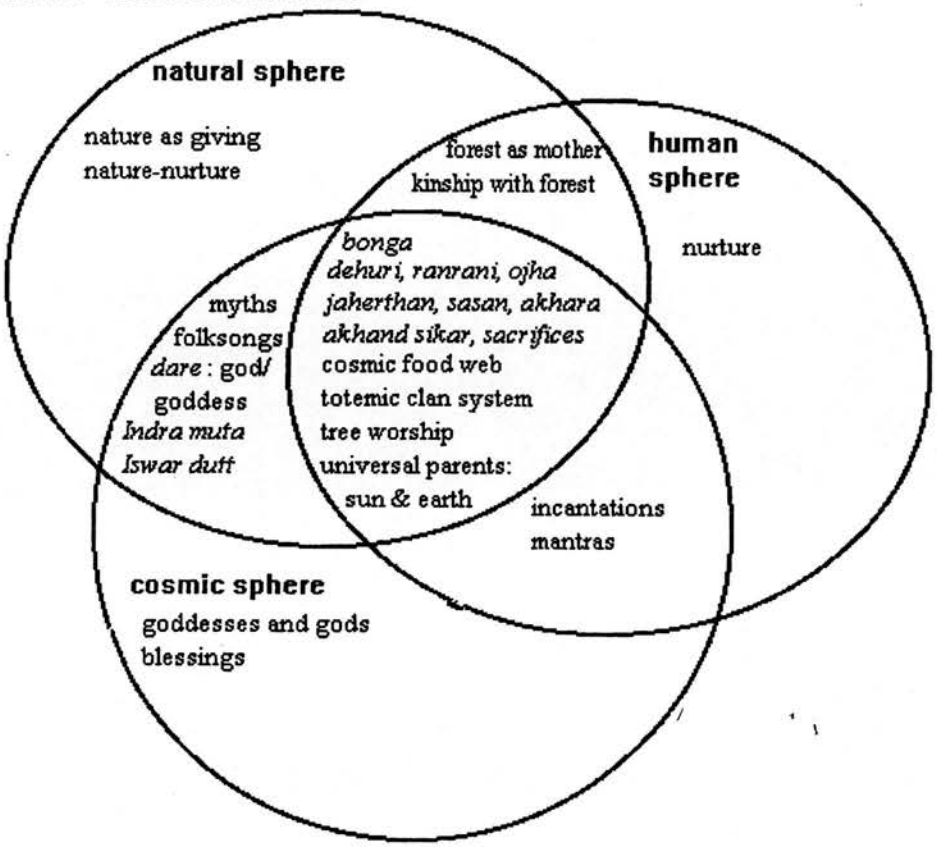


Foresters' cosmovision model





Santals' cosmovision model



Chapter 2. Forest history

Persisting and changing persuasions and performances of forest practices

I shall discuss continuities and discontinuities in forest practices first briefly in Europe, then in India and Mayurbhanj. Thomas (1983: 192-241), Thompson (1977) and Schama (1995) discuss the history of forest practices in Europe. Since Mesolithic times, humans have demolished the trees, and in the Neolithic age stone axes and fire accelerated this process. By 1800 there were two million acres of woodland in England and Wales, and by the beginning of the 20th century 4 per cent in the United Kingdom (the lowest in Europe; Thomas 1983: 192-4). 'To many, this development symbolized the triumph of civilization' (Thomas 1983: 194). Forests (deriving from the Latin *foris*, 'outside', the reference being to a village boundary, and *sylvaticus*, 'of the woods') had been synonymous with wildness, 'savage' and danger. (Malamoud (1976) and Zimmermann (1982) have investigated the etymologies of 'forest' in India.) The woods were homes for animals, not humans, and the progress was from the forest to the field, from lawless, poverty-stricken, stubborn forest-dwellers to cultivators. In Britain forests were indicative of poverty, and disliked because they provided a hiding place for criminals.

At least since early Norman times, English woodlands had been fenced off from grazing animals, coppice-farmed and selectively felled. During the seventh century unlawful tree-felling was penalised. At least since the thirteenth century there was trading in timber and wood (Thomas 1983: 198). British forestry emphasised plantations: timber should be grown on inferior land as a crop, regularly cut and harvested. Thomas (1983: 220) argues that the forest–people relationship was so close that their treatment, like that of children, fluctuated according to changing educational fashion. In the sixteenth century infants were swaddled and children were beaten, and timber trees were pollarded, lopped and worked into artificial shapes. Since the early 'modern' period tree-destruction gradually moved towards tree-preservation (Thomas 1983: 196-7).

Thompson (1977) describes a struggle over control of Royal Forests and defence of customary rights in southern England (Windsor and Hampshire Forests 1750-1800). The state protected Royal Forests due to material interest, overrode customary rights and prevented people from using them through repressive activities. 'The British state, all eighteenth-century legislators agreed, existed to preserve the property and, incidentally, the lives and liberties, of the propertied' (Thompson 1977: 21). In 1723 'the Black Act' (9 George I c. 22) was drawn upon the order of the House of Commons, and it was not disputed. It made hunting in any of the King's forests, and arming (swords, weapons) and disguising (blackening faces) in the case of deer capital offences. Thompson considers forest 'crimes' in relation to people's customary rights that have been abolished by the state as a part of changing modes of production.

'Royal absolutism was placed behind a high hedge of law' and existed simultaneously with the rhetoric of the 'free-born Englishman' and his equality before the law (Thompson 1977: 263-4).

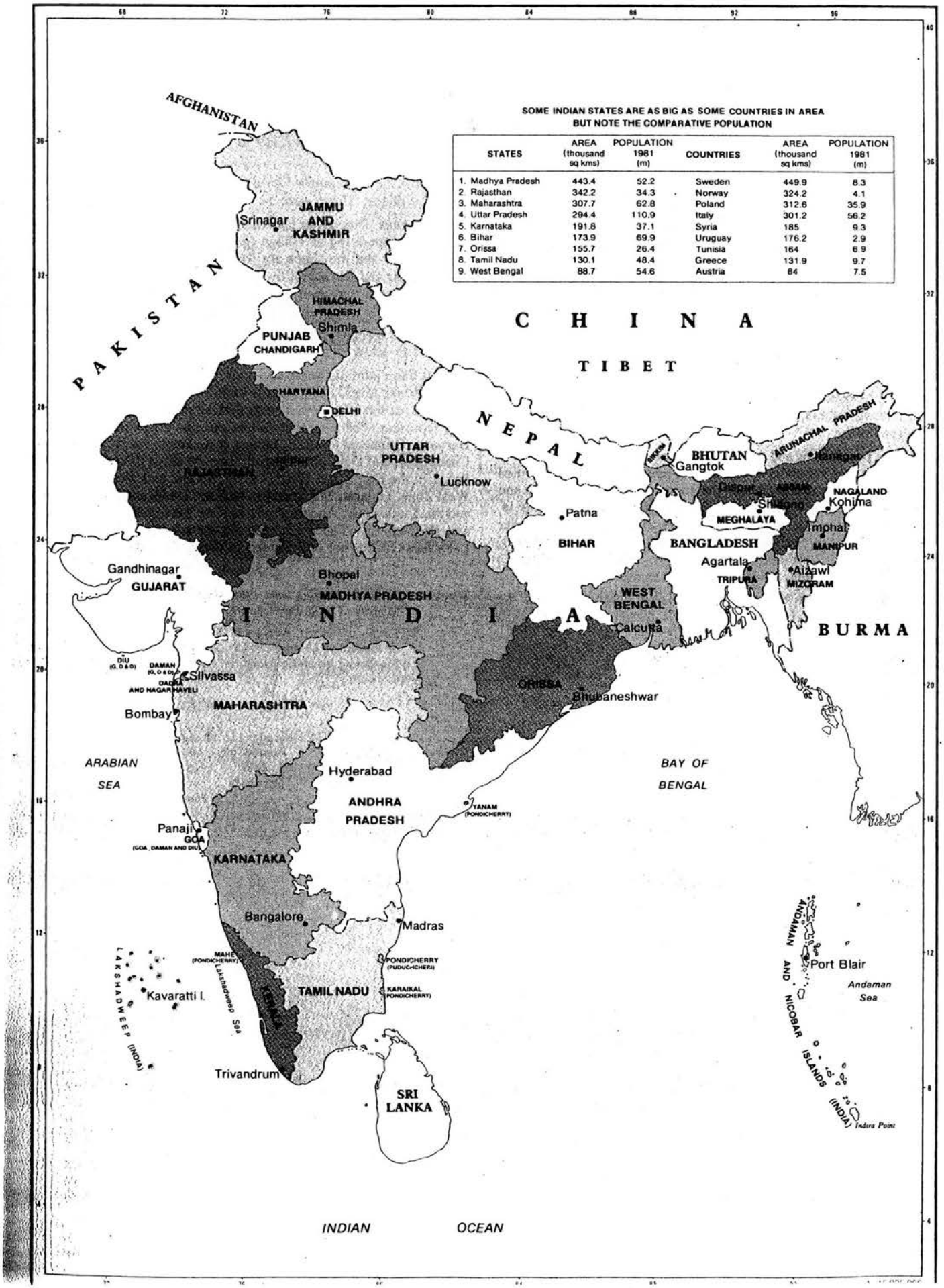
The rule of law can be seen as superstructure (an instrument of the ruling class defending their claims upon infrastructure, resources and labour), ideology, rules and sanctions defining a relationship to social norms, or in terms of its own logic and rules (Thompson 1977: 259-60). Often laws combine these aspects, and effective law functions as ideology, 'on occasion, by actually *being* just' (Thompson 1977: 263). Although law may legitimate hegemony, there is no 'simple conclusion (law = class power), but a complex and contradictory one' (Thompson 1977: 264).

Schama (1995) shows the importance of different kind of landscape features, such as forests and trees, in identity formation and national consciousness in England and Germany. The Roman leagues came to the Teutoburg Forest in 9 AD. German tribes tricked them by hiding in the forest, and many Romans were killed. For Germans, the forest was 'the site of tribal self-assertion against the Roman empire of stone and law' (Schama 1995: 15), and in England many forests were Royal Forests for royal hunts.

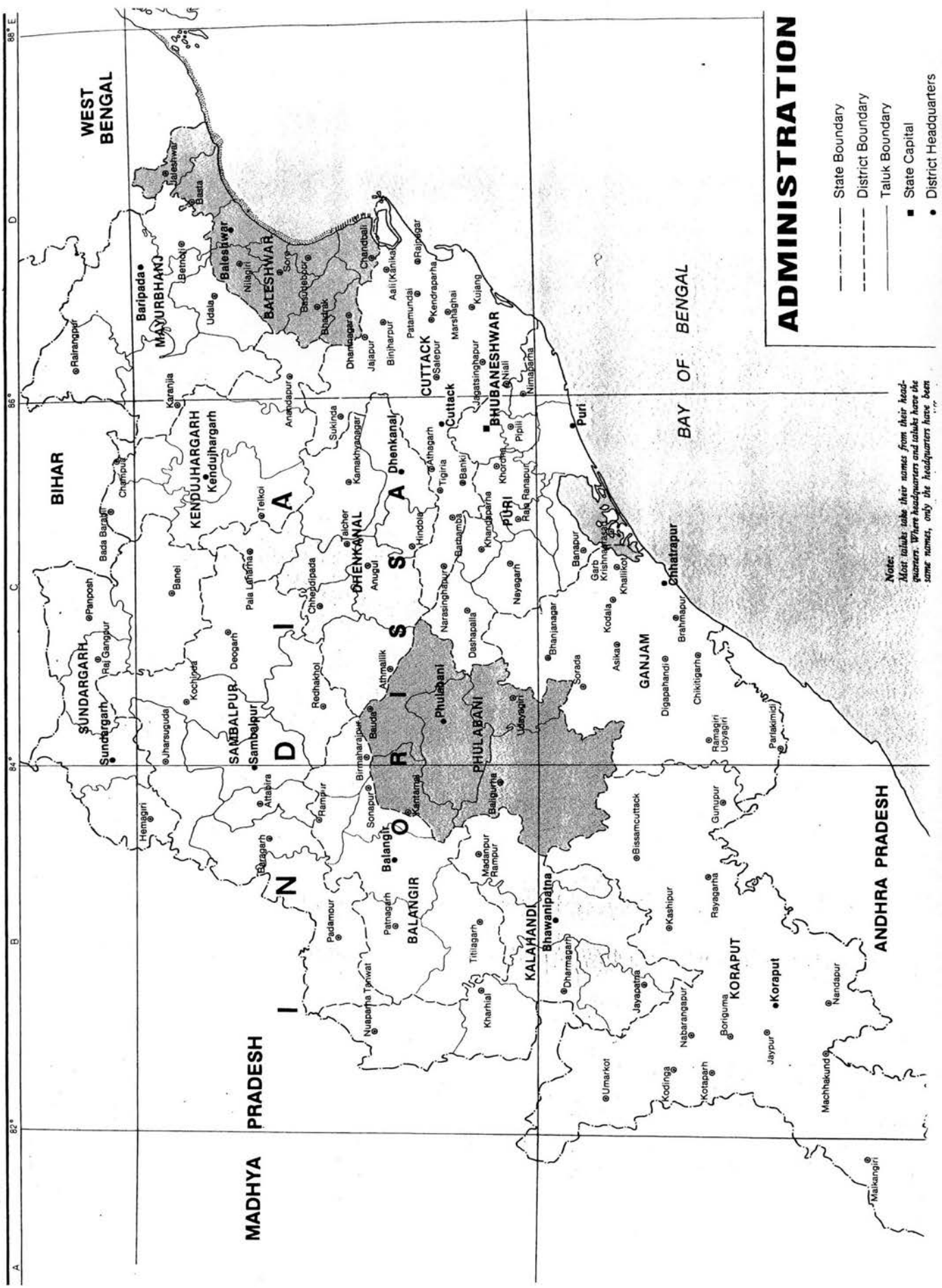
In the beginning of the eighteenth century feudal Germany had professional interest in the forest, and forestry became a university subject before Britain in 1856 (Schama 1995: 116). This is why many foresters of colonial Britain were trained in Germany. German forestry was state-led sustained-yield forestry, where the national and provincial governments had responsibilities for woodland management and forest legislation made their jurisdiction possible. Sustained yield means that harvest levels do not exceed forest growth over successive cutting periods. It is ambiguous whether the concept of sustained yield refers to the economic product derived from the physical resources or the resources themselves (other plants and animals) with regard to intergenerational equity (Banuri and Apffel Marglin 1993: 42).[42] Already in 1886 Gayer, professor of silviculture in Munich, criticised 'forests as a wood factory' approach, and argued that the forests should be managed according to biological principles: mixed forests not pure stands, and regeneration not plantations to limit the deterioration of soil and insect-injuries (Raumolin 1990: 50).[43]

[42] Instead of economy-focused sustained-yield forestry, Raumolin (1997: 5) suggests a broader sustainable forestry concept, which includes ecological, economic, sociocultural and spatial considerations, and requires forest access and use rights, and more equal distribution of benefits.

[43] Regeneration, regrowth of natural vegetation, involves the gradual replacement of ecological phases – from grasses and herbs to shrubs and young, woody saplings, to a state of high biomass dominated by tree canopy. Naturally regenerated forests are more cost-effective, and meet multiple needs of users.



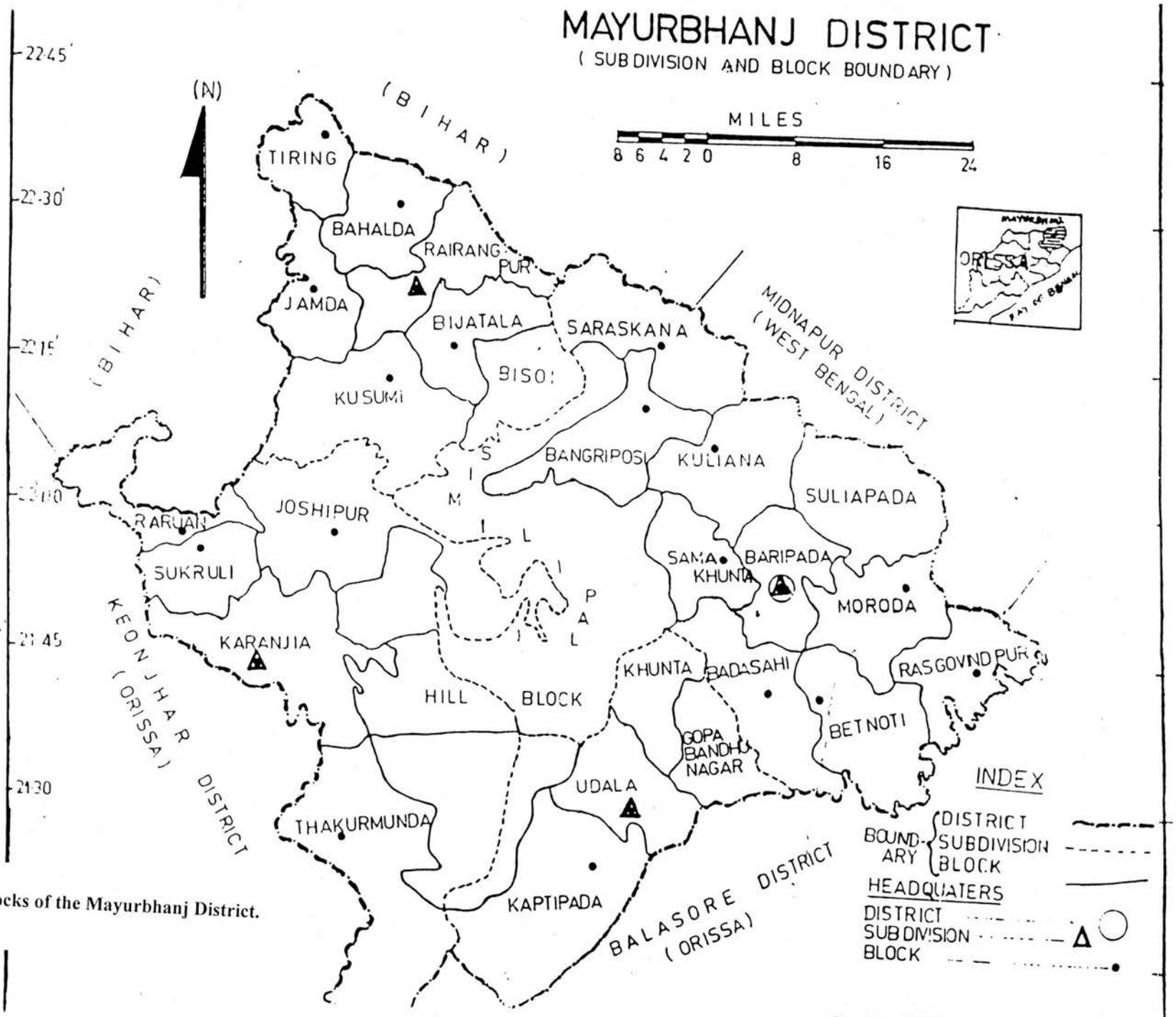
Map 1. Map of India (A Social and Economic Atlas of India 1987: 5).



Map 2. Map of Orissa (An Atlas of India 1990: 101). 1 cm = 26 km

The name of Orissa probably derives from the Oriya *Orua* (rice; *rua* = to plant a seedling; *odras* in Sanskrit) - rice growing people. Orissa has been called Kalinga, Utkal, Udra, Kosala, Kangoda, and the land of Lord Jagannath. Orissa is situated on the east coast of India. It extends from 17° 49' to 22° 34'N latitudes and from 81° 27' E to 87° 29' E longitudes. Although situated on the sea coast the bulk of the State is hilly and mountainous. The Eastern Ghats run along the length of the state from south to north and then merge with the Chotanagpur plateau. Orissa can be divided into five different physical types: coastal plains, the middle mountainous region, the rolling uplands, the river valleys and the subdued plateaus.

Map 3. Map of Mayurbhanj District (1 : 1,000,000 State; a copy of the map of Orissa, 1979).
Mayurbhanj was named after two medieval ruling families Mayuras and Bhanjas (solar dynasties). Mayurbhanj came to contact with the East India Company in 1761 and the British rule started in 1861 (Chanda 1949). After India became independent, 15 August 1947, Mayurbhanj merged with Orissa 1 January 1949 (Senapati and Sahu 1967: 1-4). Mayurbhanj District lies between 21 16' and 22 34' north longitude and 85 40' and 87 11' east longitude. It borders in the North Midnapore District of West Bengal and Singhbhum District of Bihar, in the South Keonjhar and Balasore Districts of Orissa, in the West Singhbhum and Keonjhar Districts and in the East Balasore District. The topography of the District has three types: the central hill range (Simlipal range) running North and South divides the plains into Eastern and Western halves. The forests can be classified into seven types: (a) north tropical moist deciduous *sal* forests; (b) northern tropical semi-evergreen forests; (c) mixed deciduous hill forests; (d) high level *sal* forests; (e) dry deciduous *sal* forests; (f) plain *sal* forests; (g) grass land and savanna. 80% of the rain comes down during the monsoons (mid-June-September). Paddy cultivation occupies 76% of the total cultivated area (District Statistical Handbook 1995; Annual Plan for Mayurbhanj District, 1995-6 & 1996-7).



Map 4. Map of the Blocks of the Mayurbhanj District.

The history of forest practices in India

In India the access to forested land and control of its produce, together with the choice of species has been debated for a long time. In the ancient and medieval periods rulers were encouraging people to clear forests for agriculture to increase revenues by extracting tax on agricultural production. During the pre-commercial stage in India, the forest land belonged to the king or the feudatory chief of the region, and there was little alienation of the population from the land. The commercialisation of the forest started with the construction of wooden ships (1780 onwards in Calcutta) and railways (first line from Bombay to Thane in 1853). To supply more timber the Imperial Forest Department of India was established in 1864 followed by the first Indian Forest Act of 1865 establishing state ownership of forests (Gadgil and Guha 1995*a*: 120-3). Dirks (1986: 309) argues that after the British arrived in India the meaning of land changed; land was conceived as 'owned', 'possessed' or 'controlled' to determine property rights to collect revenue. The Forest Act of 1878 established 'a rule of property' (Rangarajan 1996: 29) that restricted villagers' forest rights, and created three classes of forests: reserved, protected and village forests.[44] Reserved forests were for national economy and commercial production (shipbuilding, railways and later paper and pulp industry). Protected forests, demarcated and undemarcated, were those considered to be vulnerable to erosion, and were maintained to meet the needs of the rural population. *Gramya jungle*, village or *nistari* forests[45] were recognised as forests which people could use for their own domestic requirements.[46]

These Acts translated natural resources into private and state property. In the process, local rights were restricted, and people had to pay for items which they were accustomed to taking by right. Villagers' customary forest rights were turned into privileges and concessions dependent on government discretion (Gadgil and Guha 1995*a*: 125, 141). Several social groups faced immediately difficulties: hunter-gatherers, shifting cultivators, peasants, pastoral nomads, and artisans (Gadgil and Guha 1995*b*: 85). Nevertheless, the Government of India's (Voelcker) Resolution (1894) states that the 'sole object' of the forest administration is 'public benefit'. Sometimes the public is defined as all taxpayers, and sometimes as residents of the forest.

From their inception these restrictions have been controversial, and continue to be debated. Gadgil and Guha (1995*a*: 122-34) classify the debate into three positions: annexationists, populists and pragmatists. Annexationists advocated for state control over all forest areas. Baden-Powell (1876: 280, 285) claimed that conservation was only possible if the government had property rights over forested land: people cutting trees recklessly was 'an evil that must be suppressed' and was, he said, akin to *sati* (widow burning at the cremation of her husband). Sir Henry Maine claimed that the new law did not adversely affect community rights (National Archives of India, 1877). Populists,

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[44] The Forest Department notified in the Government gazetteers their intention of declaring some forests as state property. If nobody claimed any private ownership right, it became state property, and many *junglewala* and *adivasis* became encroachers in the lands they had resided for generations.

[45] *Nishtar* refers to customary or consumption rights of villagers to gather forest produce free of charge in the government forests for household use, but not for sale, barter or gifts.

[46] The land of village forests belongs to the Revenue Department, but if there are trees, they come under the jurisdiction of the Forest Department. They were 'more or less unmanaged', said a forester.

supporters of the rights of villagers, criticised the idea of state control: forests were in their view the property of the peasant communities living next to them. Populists, drawing on Gandhi's vision of a village-centered order, argue that customary use patterns provide a basis for forest management. The Madras government challenged the principle of state forestry. Pragmatists, such as Dietrich Brandis (1885: 1-35) steered a middle course between the annexationists and the populists: the state manages ecologically sensitive and valuable forests, and allows other areas to remain under communal systems of management. Germany was the leading European nation in forest management, when the Forest Department was formed in India in 1864. Brandis, the first Inspector General of Forests (1864) had been a botanist at Bonn University (1849-1855) before his assignment to Pegu, British Burma (1856-62), and then in India (1862-83, of which 19 years as the Inspector General of Forests). He advocated the German model of forestry and anticipated a self-supporting system: any surplus from village forest revenues would be reinvested in local improvements to encourage peasants' interest in the maintenance of forests. Brandis, unlike Stebbing (1922-27), departmental historian, recognised the knowledge base of villagers, and saw state forests as an intervention in an already existing local system of control and use (Guha 1996: 89-91). Brandis (1885: 17) mentioned the importance of 'local knowledge' for forest guards to 'ensure efficiency'. Brandis and many present-day foresters argue (partly due to similar training) that only state co-management can ensure regulated resource use. Annexationists, populists and pragmatists use historical evidence to support their positions. For a long time it was the annexationist position that communities have neither rights nor the capacity to manage forests that prevailed, but the JFM policy supports the pragmatist position. Guha (1996: 88) describes Brandis as an 'early social forester'. Brandis and social forestry and JFM proponents advocate benefit-sharing, and community-controlled forests as a complement to a network of more strictly protected areas.

Since 1865 the Forest Department has emphasised the long-term negative impact of rural land users on the regeneration of trees, not merely their destruction of mature, tall timber trees that provide large logs. Although no one source can be blamed for forest degradation, forest policies and laws imply that villagers cause deforestation (Agarwal 1986; Saxena 1991). The authorities aimed to control tree-felling and long-term degradation of timber forests. In the early phase 'conservation' did not lead to a shift from the emphasis on revenue and timber, and the Revenue Department administered forests. Before 1893 villagers were allowed access to reserved forests in return for a fee (Rangarajan 1996: 83). The administration equated conservation with exclusion of private rural land users, fires and cattle from timber forests (Sivaramakrishnan 1995: 10; Rangarajan 1996: 66). The Act of 1878 widened the executive powers of the foresters, and in the reserved forests the felling, girdling, lopping, tapping, burning of trees and the grazing of animals were banned. Foresters had the power to prohibit entry of livestock into vast areas, and this created an antagonistic relationship between officials and stock-owners. The government encouraged settlements to increase land revenue, and this created sometimes tensions between farmers, pastoralists and shifting cultivators (Rangarajan 1996: 69-70, 106). The *adivasis* often fled from the pressure of higher tribute or taxes by moving elsewhere

(Rangarajan 1996: 121), or continued their practices of grazing and shifting cultivation, although they had been made 'illegal'. The authorities failed to see protest or political intention behind these activities.

Brandis, with other foresters, argued that the protection of hill forests was vital for maintaining water supplies in the lowlands, and hence made a connection between forestry and agrarian prosperity (Rangarajan 1996: 93). Considering the agriculturist Voelcker's (1893) advice, which stressed the necessity of maintaining a good forest cover to prevent soil erosion and its associated losses for (taxable) agricultural production and fodder supplies, the 1865 Act was strengthened in 1894. Grove (1995: 468) argues that this alone cannot explain the extension of the government forests. There was another important motive: the fear of climatic change. Some scientists serving in the East India Company feared that uncontrolled destruction of forests would cause climatic change leading to draught, famine and social disorder. Hence, there was an early history of colonial forest conservation dealing with ecological concerns. According to the colonial documents, state control is motivated by the need to conserve the forest against destruction by people and private commercial interests (Karlsson 1997: 96).

There are three competing assessments of the colonial impact on Indian forests and previous practices. Some emphasise the disjuncture with the past and see pre-colonial society in a 'steady state' relationship with the natural world, where the demands of Indian rulers were limited (Gadgil and Guha 1995*a*). Others emphasise the broad continuity under colonialism, since there were commercial pressures and deforestation before the colonial era (Grove 1995). Others see both discontinuities and continuities of a complex situation (Rangarajan 1996). A reason for these differences is that the 1878 Indian Forest Act was ambiguous and provided scope for regional administration to interpret it differently (Sivaramakrishnan 1998: 284, 292). In Mayurbhanj, colonialism meant both discontinuities and continuities. There had been feudal rule (Maharaja rulers), contractors and timber extraction to supply sleepers before the British rule. The debate of annexationists, populists and pragmatists goes on today in the Forest Department and outside it. Nevertheless, since its inception the Forest Department has used Western scientific knowledge and forest management to consolidate control over both natural and social spheres.

For Rangarajan (1996: 200), the colonial period expresses discontinuity because of the major changes in political structures and property relations. Rangarajan (1996: 15-6) argues that material, social and political changes introduced in the colonial era were a qualitative break, and a culmination of trends that had been present in pre-colonial society. To understand these changes, Rangarajan investigated social changes within Britain, where the cutting of woodland was regarded as a sign of progress (Thomas 1983: 194-5, 166-8). The state has more control over cultivated (conquered, tamed) land and gains more revenue from it, or wanted to preserve forests as hunting grounds of the elite (Thompson 1977). Although depending on the forest condition and local land tenure, the intervention was more profound in the plains than in the hill areas. The indigenous forest uses were condemned, and the British tried to encourage intensive plough cultivation and wage labour rather than land

extensive and labour intensive shifting cultivation, hunting, gathering and grazing (Rangarajan 1996: 23). Rangarajan (1996: 204-5) analyses the economic activities of the social groups in the context of state–society relations. It was easier for sedentary settlers, such as Gonds, who live in large parts of central India, to fit in with the colonial land regulation than for those relying on extensive forms of production, such as Baigas, a tribe living mainly in Mandla, Balaghat and Bilaspur Districts of the Central Provinces. Nevertheless, all villagers were regarded as lawless, unproductive, ignorant of the forest, a threat to forests, and have been blamed for deforestation for a long time (Mourbhanj Forest Manual 1911: 76; Jee 1957: 43). Constructs of nature, forests, environmental problems and people, can be used as tools of power to support different agents' control over the means of production. Deforestation and conservation discourses have been used as covers for vested interests over the same resources.

For a long time there has been a conflict between the state's interests in protecting and producing from the forest, industrial wood demand, and local forest users' subsistence and cash needs (Guha 1990). Planned development after independence laid emphasis on river valley projects and industries. The National Forest Policy of 1952 stated the primary importance of the industrial use of forests. The creation of national paper industry is a status symbol, since paper is a symbol of literacy, and higher paper consumption indicates higher standard of living. The state subsidised the industrial consumer of forest produce in the name of the national interest. Although the state owns the forests, contractors do the actual extraction of forest produce. In 1976 the National Commission on Agriculture envisaged a social forestry programme. In Orissa this meant plantations of fast-growing species and the reforestation of degraded forest. Although it became another version of commercial forestry, the programme began to sensitise foresters to community needs. Its declared objective – to meet the basic needs of the community – is similar to that of the JFM.

Most policy changes to make participatory forestry possible have happened from late 1980s onwards: new forest sector policies, Rio and Agenda 21, decentralisation and public sector reforms (Hobley 1996: 3). Before 1988 trespassing was also an offence in reserved forests. To tackle deforestation, the National Forest Policy of 1988 and the Government of Orissa issued Orders (Annexure 2, 1.8.1988 and Annexure 3, 11.12.1990) to involve people in forest management. Annexure 3 extends the scheme to the protected forests, and there are certain 'concessions' (not rights) for reserved forests, which local people already exercise. In 1988, the state government banned tree-felling in Orissa (in the core area of Simlipal in 1974 and in the buffer area in 1982). By the end of 1993, 27 per cent of Orissa's state forests were under some type of community control (Poffenberger *et al.* 1996: 35). (Appendix 11. The number of FPCs and VSSs in Orissa and Mayurbhanj.)

Agarwal (1986), Shiva (1989), Fernandes *et al.* (1988), Agarwal (1992), Gadgil and Guha (1995*a*) and Shivaramakrishnan (1995) provide an environmental variant of a nationalist rhetoric against the colonial rule and its destruction of self-sufficient village communities. They reinterpret Indian history through peasant studies in relation to (state) power. They argue that pre-colonial

peasants understood their dependence on nature, and the colonial impact with commerce and competition for resources was disruptive. Although colonial forest histories describe local communities as careless and ignorant in dealing with forests, many contemporary researchers argue that forest conservation is not possible without joint efforts (Gadgil and Guha 1995*b*; Peluso 1992: 235; Colchester 1994; Baviskar 1995; Rangarajan 1996; Kothari *et al.* 1996; Poffenberger and McGean 1996). On the policy level the trend has changed from viewing the local population as a problem to seeing them as a part of the solution. FPCs protect approximately two million hectares of forest area (Government of India: Sustainable development, Internet 1999). Poffenberger and McGean talk of a new paradigm of ethnoforestry.

> The rationale involves ecosystem dynamics, indigenous community knowledge and creativity, local empowerment, faith in community self-reliance, and full management participation by those who are closest to the forests, strongly dependent upon them, and highly motivated to keep them productive (1996: 13).

Historical studies show that trees and forests are not naturally given categories, but result from the dialectic of historical and ecological processes (Balée 1994; Fairhead and Leach 1996). 'Forest' and 'forest lands' are political, not biological definitions (Peluso 1992: 131). Even a clear-felled forest is a forest – a forest without trees. The extent to which a severely degraded forest still fulfils the definition of 'forest' has been debated for a long time. In 1893, a Government of India circular stated:

> in the Act, there is no definition of forest [...] The term may be applied to land totally destitute of trees.

Rangarajan (1996: 74) argues that the Reserved Forest was 'a juridical category, not a descriptive one', and the creation of extensive government forests was to alienate property right to land rather than for purposes of forestry.

According to the estimates, in 1854, the year of the first Forest Policy, 40 per cent of the country's landmass had a tree cover, in 1952, the year of the first post-independence policy, 22 per cent (Fernandes 1996: 5), and in 1988 11 per cent (Malhotra and Poffenberger 1989: 22). Forest statistics of the Forest Department are based on *de jure* classification, sometimes contrary to the *de facto* forested. According to species composition, Indian forests can be classified into broad leafed (94%) and coniferous (6%). There are varying estimates of the percentage of open and dense forests. Deforestation was proceeding at the rate of 1.5 million hectares per year between 1980 and 1987 according to remote sensing of India's forest cover. Satellite images of Orissa reveal a 10 per cent decline in forest vegetation cover between 1983 and 1987. (Appendix 10. Forest and population statistics.)

Degradation (*ujuda*; no tree at all) and deforestation (*ujudibaku jaurhiba*; there are trees) are value- and interest-laden terms, and the concept of damage is relative. People do not necessarily want forest and wildlife in their environment. Some consider deforestation as a clearing procedure and others regard hunting as a measure to control the number of wildlife. Nevertheless, the *junglewala* said

they cannot live without the forest, and many were worried about tree-felling and the declining observations of wildlife. Deforestation reduces the value of forests and makes it more difficult for agents to make ends meet. For the *junglewala*, deforestation is not merely a question of trees or environmental abuse. It is conceived as a cosmic abuse caused by humans' disrespect of spirits, and making spirits angry and cause diseases, barrenness, infertility and natural calamities.

Deforestation is often depicted as the consequence of poor farmers' material needs, and solution as new sources of income (instead of the creation of carbondioxide especially in the West). Dove (1996) argues that external competition and the marginality of forest-dwellers, or their

> distance from political power handicaps them in developing forest resources, just as their physical proximity to these resources earns them the blame for all resource degradation (Dove 1996:42-3).[47]

Whether the solution to deforestation is in changing the behaviour of forest-dwellers, or that of the government officials is open to question. Dove (1996: 42) asks, do forest-dwellers 'need to be *helped* to develop by the outside world or do they need to be *allowed* to develop?'

The 1865 Forest Act initiated legal discrimination against the *junglewala* by giving foresters both police and judicial powers (the right to arrest without warrant and the power to levy penalties).[48] This position continues today, and increasing forest area has been made reserved. Forest-dwellers' lack of rights 'in the forest is an act of discrimination against them' (Kelkar and Nathan 1991: 123). There has not even been a notional advance in the legal position on forest rights in India, like in Australia and North America. Kelkar and Nathan (1991: 125) argue that the *junglewala* are discriminated against at the economic level, and at the level of civil rights.[49] Rural poverty and land hunger have been associated with stealing and squatting rather than forest-dwellers' famine of use rights and foresters' (fear of) timber-famine.

Forest policies address several concerns: timber supply, revenue, wish to bind down mobile land users, fear of deforestation and its impact on agriculture, short- and long-term forest management, promotion of certain commercially valuable species (cash trees: teak, *sal*, *deodar*, pine, conifer, eucalyptus) against others. Other land and forest uses were stigmatised ineffective, destructive and criminal (Rangarajan 1996: 198). The history of forest policies shows (up to 1988) that their tendency has been to restrict local people's use of forest produce to fulfil the national goal of revenue collection. The more scarce forest produce have become, the more tension this has created between the *junglewala* and foresters. Many recommendations of the Roy Burman Committee (1982), which urged

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[47] While timber is smuggled to other states or Bhubaneswar, the Forest Department claims that illegal felling is due to local demand. The foresters said 'Everybody is guilty and the whole guilt is going on local people' and 'People sleep on the ground and export valuable species to outside'.

[48] The emergence of an all-India forest bureaucracy helped other foresters to gain greater powers (Rangarajan 1996: 93). By 1920 the Forest Service consisted of three branches: the Imperial Forest Service recruited in Britain; the Provincial Forest Service recruited and trained in India; and the Subordinate Forest Service recruited and trained in provinces (Parker 1923).

[49] The law defines and determines the bounds of criminality and its treatment, such as making unauthorised access and appropriation of natural resources a criminal act. In the eyes of the forest-dwellers many state laws are criminal and their customary subsistence practices are not illegal (Thompson 1977; Peluso 1992: 11).

to integrate the forest and tribal policy, were incorporated in the forest policy of 1988.[50] Although 17 States have issued orders or resolutions enabling people's participation in the management of degraded forests, these principles are implemented in the field in few States. Current debates and conflicts echo debates and conflicts of the past.

The history of forest practices in Mayurbhanj

An early account of the extensive forests of Mayurbhanj is in Chanda's *History of Mayurbhanj*, based on British official records. He describes the expedition of Alivardi Khan against the Raja K`Jagardhar Bhanj of Mayurbhanj in 1741. The Maharaja was in his mansion at Haripur, but

> seeing the superiority of Alivardi Khan's army, with his effects, followers and dependants, fled to the top of a hill, and hid himself in a secret fastness, beyond the keen discovery (Chanda quoting Mahamedan history Riaz-us-Salatin in Jee 1957: 70).

Similarly after the cessation of Orissa to Marahattas in 1751 by Alivardi Khan, during their struggles for independence the Maharajas of Mayurbhanj fled several times into the hills from the Marahatta army.[51]

Later on, after the annexation of Orissa in 1803 at the conclusion of the second Marahatta forest conditions continued to be similar. According to Hunter, the first British Commissioner,

> Herds of elephants still roam through the forests and mountains (of Mayurbhanj), and the English officer in charge of the operation for catching them has lately bagged upwards a hundred fine animals during two seasons (Hunter, *History of Orissa*, 2 quoted in Jee 1957: 70).

What happened to the forests between 1803 till the end of that century is partly a matter of speculation, but some forest land was converted to settlements and agricultural fields, and some forest leases were issued (Jee 1957: 70).

For the East India Company, Mayurbhanj was a forest area yielding no revenue, and residents could use forest produce freely. When the State was under the Court of Wards administration during the minority of Maharaja Sriram Chandra Bhanja Deo (1882-91), forest preservation was seen as a precondition for forest revenue. After the Indian Forest Act was introduced in 1888, a ranger and a peon were appointed to manage the forest under the instructions of the superintendent. Before the establishment of separate Forest Department in 1895, the forests were under the Revenue Department.[52] *Raiyats* or *ryots* (cultivator; landholder) paid nominal cess to take unreserved timber for building and agricultural purposes and graze animals. Some paid a licence fee on lac (on *kusum* and

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[50] The Roy Burman committee (1982) emphasised the 'symbiotic relationship' between the *adivasis* and forests. Few government officials used the following expression to describe this: 'The relation between the tribals and forests is like that of fish and water'.

[51] 'Thanks to the hills and jungles that spread across it and the indomitable spirit and political vision of its chief, it managed to survive the greed of either (British and Marahatta) powers' (Chanda quoted in Jee 1957: 70).

[52] *Paiks* were soldiers during the wars, and during peace time collected land revenue in kind (honey, pulses, birds) and money, and held *jagir* lands (a service tenure) as remuneration (Senapati and Sahu 1967: 345-6). Many social forestry plantations are planted on them.

polas trees) and tussar [53]cultivation. The Forest and Exercise (distilled liquor) Departments were established to bring in revenue. The forest revenue rose from Rs. 30,000 to 150,000 in a year after the establishment of these Departments (Senapati and Sahu 1967: 26, 79).

In 1895-96 Hatt, Conservator of Forests, visited Mayurbhanj and drew a working plan report prescribing the organisation and management to be introduced (Jee 1957: 71).[54] Hatt was concerned with 'denuding' and shifting cultivation.[55] Most mature *sal* is in the south-western area and in the central group of hill forests. For instance, in Baraipani (ropewater; a waterfall looks like a rope) 'there is as magnificent a sal forest as it is possible to imagine.' The hill forests of Simlipal were preserved apart from the limited accessible parts that were partly denuded. In 1896-97 forests were divided into the reserved forests managed by the Forest Department, and the protected forests under the Revenue Department, and private (*lakharaj*) forests. In 1908, Cobden-Ramsay, Political agent of the Feudatory States, Orissa, wrote that 'the forest contains many fine trees', but also hollow, badly grown trees and dry rot is common. He was concerned over 'mercantile size' trees in the future. In 1967 the Simlipal forest was in a good condition, 'not very different what Cobden-Ramsay visualised' (Senapati and Sahu 1967: 21). The *Mourbhanj Forest Manual* (1911) set out the rules for local conditions, and was in use in 1998.[56]

> Before 1885 timber leases had been granted to traders from outside on nominal rates.
>
> Although the revenue realised was small, the damage done to the forests was quite considerable (Jee 1957: 60).

Small quantities of logs were floated from Baripada up to the delta where the river meets the sea in Balasore District (at least 1900-1901). In 1904 the railways connected Baripada with the Calcutta-Madras main railway line. From 1904 onwards Bengalee and Marwari timber merchants were given timber leases. The Simlipal reserves were 535,344 acres, forming 5/8 of the forests of Mayurbhanj. 'Others have deteriorated' and revenue-wise 'do not count much' (Jee 1957: 61). The Borooah Company from Calcutta was granted a 10-year timber lease in 1906. It wanted to have a 30-year monopoly timber-lease for the Simlipal Reserve Forest, and a monopoly lease to collect and export *myrabolan* (*amla, bahada, harida*) and NTFP. The proposed leases were not implemented immediately, since other leases were current. The Maharaja died in 1912.[57] The leases were executed

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[53] Tussar, *Antheraea paphia*, worm, produces tussar silk. Tussar cocoons are cultivated on *asan* trees.

[54] Working plans are long-term silvicultural plans of the Forest Department. Their objective is to improve forest condition and productivity by minimising the unauthorised use of forested areas (Rangarajan 1996: 83). Some foresters think that 'Everything is there [...] past and future management'. Others consider it unnecessary: 'Working Plan is an obsolete document [...] no more resources should be wasted at that', a forest researcher said.

[55] Hatt (quoted in Jee 1957: 7) wrote 'The plains and accessible parts have nearly all been denuded of mature sal [...] parts ruined by 'Jhum'cultivation.'

[56] The Kharias were allowed to practice shifting cultivation on hills, but not in reserved or protected forests. The Forest Department should reclaim other 'forest tribes [...] from this habit' (Mourbhanj Forest Manual 1911: 76). The Kharia belong to South Munda Branch, Central Munda sub-branch, and are divided into three Kharia subdivisions: the Pahari, Erenga or Hill Kharia; the Dhelki Kharia; and the Dudh Kharia. The Hill Kharia live mainly in the Simlipal hills (Parkin 1992: 32).

[57] Maharaja Sriram Chandra had invited some officers of the Bengal Nagpur Railway to extend light railway to the forest areas in 1912 (Senapati and Sahu 1967: 80). A shoot was arranged, he was wounded and later died. An old Kharia man of Budhikhamari told that the Maharaja had married a second wife from West Bengal, and the brothers of the first wife got annoyed and killed the Maharaja. His father took part in this hunt, and was also killed. The successor, Purna Chandra Bhanja

during the Court of Wards administration in February 1916 after modifications aiming to guarantee that *sal* trees under six feet in girth are not logged, and the company can extract the agreed annual quantity of sawn timber.

According to Hatt's working plan report, the main object was to exploit *sal* trees of no less than six-girth, i.e. trees that would become otherwise hollow. In 1939 the Borooah-lease was modified and the exploitable girth limit was lowered to 4 1/2 feet, and remained in force till 1946 (Jee 1957: 61-2). The Annual Administration Report (1906-07 quoted in Jee 1957: 73) states that commercially the enterprise has been a success. Exploitation is done according to Hatt's report 'on a scientific basis, so far as local circumstances permit'. Whereas according to Jee (1957: 73), there were no silvicultural considerations given in the 30-year timber lease: it was a 'thorough and ruthless exploitation of the whole of the extensive Similipahar forest'. The lowering of extractable tree size made the exploitation heavier still. The company was well organised in sawing and transporting timber, and 'always ahead of schedule' (Jee 1957: 74). The State Forest Officers hurriedly marked the trees to keep the sawyers and workers engaged. Although the working plans specified the time between felling cycles, the timber-demand led the Forest Department to violate the plans also elsewhere in India (Rangarajan 1996: 85).

Approximately three quarters of the Simlipal were under the lease, and the annual maximum was 800,000 cubic feet (cft.) of sawn timber. On average two cft. per acre were cut annually, but it was more from some areas, since the area included blanks and areas with no exploitable trees (hill tops, river beds, savannahs; Jee 1957: 75). For the selection coupes the royalty rates were kept low (Rs. 0.20 per cft.) to encourage road construction inside the forest. Because timber was sold only in the form of sleepers, from which royalty was accounted, there was high loss in conversion (Jee 1957: 75). In 1929 Gagliardi (quoted in Jee 1975: 71), additional forest officer, wrote that although according to the lease the company was supposed to convert to the maximum, it did not extract planks and scantlings, and the wastage from the log to the sawn sleeper was 75 per cent. There was no fluctuation in the price of timber during the 30-year timber. Some NTFP (horns, hides, lac) were leased out yearly. For other items (tussar, leaves, fibres) export royalty was levied in weekly markets from traders. This system of exploitation continued until the merger with the State of Orissa, 1 January 1949. Then a system already used in other divisions was introduced: short-term leases were granted on open auctions (Jee 1957: 65, 60). The leases were worked under a selection system with a girth limit. Dasgupta prepared the first working plan for Simlipal for the period of 1947-48 to 1966-67, and it was in force till 1952-53. The Simlipal was put under a selection-cum-improvement system of working: four felling series were formed and a 20-year felling cycle was adopted (Jee 1957: 76-8; Bakhla 1996: 111). Although the exploitable girth for sal was five to six feet at breast height,

> about 60% of the annual yield was from trees of 3' to under 5' girth. This was being done in the name of improvement. As a result of all this, the condition of the forests deteriorated further (Jee 1957: 76).

Deo, was under age, and the State was administered by the Court of Wards until 1920. The Maharaja died young in 1928 and was succeeded by his brother, Pratap Chandra Bhanja Deo, who handed over the administration of the State to the Council of Ministers.

A forester told about an accident in Mayurbhanj in 1957, where third of the staff died. New foresters were 'ignorant', and some forest was converted to fields and homestead lands.

Previously the conversion of forest to field and migration were encouraged. The main reason for the migration was to find work in timber extraction, mining or other business in Mayurbhanj. Many Santals and Mundaris, already trained as sawyers in timber industry, came from Singbhum (the then province of Bihar and Orissa; Appendix 15), and Ranchi Plateau to work for the Borooah Company (Das 1981: 42).[58] Some of their children live in Simlipal. Due to 'their nuisance activities in the forests', the authorities expelled the Kharias from Simlipal in 1930, but the Kharias returned gradually. In 1965 2,000 *adivasis* from Singhbhum squatted 4,000 acres in the reserved forests of Simlipal hills, and were evicted from there (Senapati and Sahu 1967: 93). Since these events the residents of Simlipal have lived in the fear of eviction. Currently all residents of the core face eviction, and access and use right restrictions.[59] This historical account of the residents of Simlipal is a stark contrast to the more usual indigenous peoples story of: it was our forest, then the loggers came.

After the merger a working plan for all the reserved forests of Mayurbhanj was compiled aiming to remove 'unwanted items', such as hollow, diseased, drying or dead trees (Senapati and Sahu 1967: 27). It states the general objects of forest management.

> (i) To conserve and improve the forests by scientific management so that the forest cover will be maintained and *ad infinitum* and will ultimately produce the maximum possible sustained yield. (ii) To cater to the growing needs of the population of the district in respect to forest their requirements of forest produce. (iii) To grow timber to as big a size as is possible in suitable localities with a view to export outside after having satisfactorily met the demands of the local population. (iv) To regulate flow of water in various streams, and to prevent soil erosion by maintaining forest cover. (v) And, to rehabilitate the forests deteriorated by maltreatment in the past (Jee 1957: 86).

Das (1981: 83) lists similar points as above and 6th point concerns people directly: 'To meet the rights and concessions of the local population.' The objectives of the National Forest Policy Resolution (1988) and JFM are similar aiming to conserve soil and environment, and meet the subsistence needs of the people, with an additional emphasis on women, the *adivasis* and the poor.

> Creating a massive people's movement with the involvement of women and to minimise pressure on existing forests. [...] meeting the basic needs of the people especially fuelwood, fodder and small timber for the rural and tribal people and maintaining the intrinsic relationship between forests and the tribal and other poor people living in and around forests by protecting their customary rights and concessions on the forests. [... Forests] are a national asset to be protected and enhanced for the well being of the people and the nation (National Forest Policy Resolution 1988).

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[58] Up to 1904 the felling method was cutting by axe and extraction as logs, later sawing became the main method of felling, and logs were dragged by buffaloes and carted to the mill. The first trucks were introduced in 1936 (Jee 1957: 63-5).

[59] The Forest Department has divided the Simlipal Tiger Reserve (2750 square kilometres) into core (846), buffer (1354) and fringe areas for management purposes. The aim of the Project Tiger (since 1973) is to eliminate biotic interference. The core area has four villages, Kabatghai (population 85; households 16), Jamunagarh (42; 9), Jenabil (158; 31) and Bakua (56; 9). The buffer area has 61 villages, and the fringe area, which is a belt of ten kilometres around the buffer, has 1121 revenue villages and 384 910 (1981 census) residents, of which 74% are the *adivasis*.

In the working plans *junglewala*'s forest practices are not represented as part of past or present systems of management, but as biotic interference.[60] Their section on rights and concessions for forest produce deals with people. These rights and concessions are based on the *Mourbhanj Forest Manual* (sections 50-74 of the Part V of Chapter II) published in 1911. This is very much out of date, and because of the disappearance of the forest, no such rights are there. Reserves are defined as commercial forests and managed for revenue, hence people living around them should leave them be. Villagers are allowed to collect firewood for household purposes, but professional communities, such as carpenters, potters, distillers of liquor, washers, are treated as ordinary *raiyats*, and their commercial firewood collection on fixed annual sums was stopped.[61] Villagers were supposed to supply the labour to clear boundary lines, extinguish forest fires, help in surveys and demarcation and to detect cases, but Jee argues that they did not.[62] Jee (1957: 34) argues that villagers' rights have not benefited conservation, 'although they might have helped the general administration.' The 'process of impoverishment is going ahead' in the reserves and protected forests of the plains (Jee 1957: 34).

To meet the growing demand for big timber, forests were placed under a silvicultural system working circles using different methods of treatment. Selection working circle covered 90 per cent of the total reserve forest area, where dead and defected trees and trees of exploitable girth were felled. Other working circles were improvement, coppice (clear felling apart from leaving 10-15 trees per hectare), bamboo, and protection (no felling and grazing on denuded areas to regenerate forest) working circles (Jee 1957: 86-91; a retired forester). Some foresters see social forestry and JFM as a working circle covering some areas, or as a method of treatment used in certain places. These interpretations partially explain why it is not taken as a coherent approach. According to a retired forester, since 1962 the Forest Department has attempted to make the Betnoti area self-sufficient with quick-growing species. He said that they are not self-sufficient, but can manage. Another forester said that in the Betnoti Range there is watch-protect-use-method: people protect the forest and get benefits from it. Whereas in Kaptipada Range the Forest Department manages the forest, and people get benefits without protecting the forest. 'Without investment they get much', and may take an axe and get income, said a forester.

There are three institutions dealing with the forest management in Mayurbhanj: Baripada Forest Division, Karanjia Forest Division (under the state government), and the Simlipal Tiger Reserve (under the central government). Bakhla's (1996) current working plan comprises reserve forests and plantations of Baripada and Karanjia Forest Divisions in the Districts of Mayurbhanj,

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[60] Human beings, termed as 'biotic interference', with activities such as grazing, illegal removal of forest produce, encroachment and pyromania, are seen as the major threat to forests in the Forest Department (Bakhla 1996: 52).

[61] In many forests, people have the rights of footpath and water channels for irrigation for the needs of agriculture (Jee 1957: 32-3, 169), but in Simlipal the foresters threatened residents of a village with prison for constructing a canal without a permission on revenue land in 1997.

[62] Jee (1957:34) claims that the 'rights, privileges or concessions [...] are very extensive all over the area, and the control to regulate them was not adequate. [... They] were not granted in lieu of any service to be rendered to the Government, but they grew up in course of time.' Jee overlooks history: people had more rights before forests were declared reserved. Hence, they were formed rather than 'grew up'.

Bhadrakh and Balasore. Concerning rights it follows the *Mourbhanj Forest Manual* and previous working plans, and refers to JFM resolutions as 'effective resource management' (Bakhla 1996: 33). The makers of the working plans are concerned about the gap between the plan and the actual position in the field. Bakhla (1996: 101) argues that unless the working plan prescriptions and budgets match, 'even the simplest silvicultural principles of climber cutting has been lying neglected for years', let alone JFM. According to a senior forester, the 'working plan is not working. The felling of trees is banned' and the Forest Department is left with dead and illegally felled trees.

Term changes in reports and working plans of the Forest Department express changes in attitudes. 'Forest officers' dealing with 'forest exploitation' and 'extraction' have become 'forest officials' involved with 'forest management' and 'conservation', while there is more tension in the use of the contested forests. Forest policies and the Forest Department have tried to restrict tree-felling by restricting access, setting limits to tree sizes, quantities of sawn timber, emphasising maximum conversion with less waste, banning tree-felling, and JFM. They claim to reduce forest dependency by encouraging alternative income-generating activities, such as vocational training in horticulture, beekeeping, diary, piggery, improving agricultural facilities, and establishing NTFP co-operatives.

Chapter 3. Methods

Planning and doing fieldwork – methodological concerns and limitations

This research had a funnel structure, being progressively focused over its course (Hammersley and Atkinson 1995: 206). My research proposal in 1996 had a broad topic: 'Local knowledge and environmental attitudes: a case-study on social ecology and JFM.' From this it narrowed down to the current title: 'The forest cooks and the people eat: nature and society in Mayurbhanj, Orissa'. The progressive focusing is both the strength and the weakness of my research design. The strength lies in taking into account the field context and avoiding the research turning into a self-fulfilling prophecy; re-search means to search and search again. The weakness lies in narrowing down the focus and taking more time. During the preparatory period, I consulted the literature on issues related to my topic that was available in the libraries in Britain and Finland. I was initially affiliated to the Indian Institute of Bio-Social Research and Development (hereafter abbreviated 'IBRAD') to get a research visa to begin with.[63] I made a three-week visit to India in April 1996 to make initial contacts and collect material from libraries.

I was in the field for 12 months, from January 1997 to January 1998. Most days I spent in the villages, but also visited offices and institutions, and in discussions with informants in towns. First, while waiting for a permit from the Government of Orissa, I visited different institutions and libraries in Calcutta, Kharagpur and Bhubaneswar. Then I stayed in Tangi (60 kilometres south-west from Bhubaneswar in Khurda District) over a month in March and April. The rest of the time I stayed in Mayurbhanj. Despite my plans to live in the villages, I lived in Baripada in Swagatika, a working women's hostel. There were several reasons for this: my continuous diarrhoea, houses in the villages were full of people, interpreters did not want to stay in villages overnight, and in Baripada there was electricity so that I could use the laptop and charge the camcorder's batteries. I consider living outside the villages as a serious drawback for further engagement with the *jung*lewala and village life. Nevertheless, this research is not a typical village study, and I had possibilities to meet with foresters, officials, members of NGOs and *junglewala* in Baripada. During the rainy season, apart from three weeks in Finland, and two weeks in Delhi visiting libraries and collecting material, I worked in the villages, except when the rain made the road conditions too dangerous to go. When the interpreter had days off, I worked in Baripada, visiting people (in offices), typing fieldnotes and reading material. Most of the time we moved with a Luna-moped, but also cycled and used buses. My daily routine followed natural rhythms, rising with the sun and retiring after the sunset. I went out early in the morning, since it was possible to find people at home or in informal gatherings, and possibly having some time for discussions.

[63] The IBRAD (established in 1985) is the National Co-ordinator for Training Activities of JFM. The IBRAD is a community-need based and action-oriented organisation. The founder-chairman, Dr Roy, previously worked in the Anthropological Survey of India.

First I thought of selecting a site based on where JFM is practised. After having examined a *Vana Samrakshana Samiti* (hereafter abbreviated 'VSS') near Tangi, and spent some time in Mayurbhanj District, where many villagers considered forest protection as a success of the FPCs and opposed JFM, I decided to drop my main emphasis on JFM when selecting the sites. Basically there was very little that followed the government JFM guidelines in Mayurbhanj. Moreover, I did not want to engage in policy research only, and I shifted my emphasis from policy to forest practices and different agents' interactions with the forest, plants and animals. These may take different forms, from forest protection to tree-felling, and some people are active in both: officially in forest protection and unofficially in tree-felling. When I went to the field I did not plan to examine the Simlipal Biosphere Reserve, the National Park, the Tiger Project, resettlement or stone quarry, but these were important to informants, and I included them in the research. *In situ* knowledge of the locality is a topic that requires much background understanding, and this was very limited in my case, since I had not lived in the area before. Fieldwork made me more aware of the close links between forest practices and knowledges.

A main problem was the language barrier. I tried to learn Oriya in the field, but never became confident enough to dispense with interpreters.[64] Working with an interpreter has advantages and disadvantages, and much depends on the personality of the interpreter. It was difficult to find someone who was fluent enough in English and Oriya, had enough time and was interested in this kind of work. In the beginning I worked with several interpreters, and from June onwards with Santosh Mohanty, who had the advantages of knowing the area and some people sharing an interest in forests. When Santosh wished to ask questions, he did so, and he also made some interesting suggestions on the way we did fieldwork. For instance, he invited five persons living in and a person living near the Simlipal Biosphere Reserve, referred to in the dissertation as the Simlipal group. The participants were young men from three *adivasi* communities: two from Kulho, Mundari and Santal communities. We met once a month for three to four days in Baripada, and most of the information on medicinal plants, Simlipal and on Kolho, Mundari and Santali languages, and some on forest practices, and some myths and songs I collected in our six workshops. We worked mostly in English and Oriya, but also to a limited extent in Santali, Mundari and Kolho to lessen misinterpretations and knowledge-loss in translations.

Gender-sensitive critiques of anthropology (Ardener 1972) point out the male bias in the discipline: white adult male or female researchers discuss with 'native' males, who represent the Other through a male lens. This is particularly important with identity, since concepts of person or self are not gender- or age-neutral, nor is there a core of personal identity prior to gender identity (Moore 1994: 36-7, 29). Ardener (1972) discusses the problem of women as a technical (the difficulty of dealing ethnographically with women) and analytical difficulty. The same applies to children and inarticulate classes of men, since individuals of all ages and both sexes contribute to symbolism (Ardener 1972: 155). Turner (1967) assumes that society as a whole generates symbolism. Ardener's

[64] Before fieldwork I attended a course in Hindi at the Continuing Education Centre in Edinburgh. Among the people I worked with were a small number who knew Hindi, and most knew Oriya.

(1972) Moto story shows that surface structure expresses the male view of the world (land inheritance, political office), and at a deeper level there exists a female view (fertility). Women ethnographers may express the 'maleness' when they approach the women of other societies, because to consider the problem of women would split apart the anthropological framework (Ardener 1972: 155). Gender- and age-biases are common also in post-modern anthropology, male-bias in Clifford and Marcus (1986) and in subaltern studies (Spivak 1988), and female-bias in Strathern (1988).

Based on my experience of fieldwork as a woman I would argue that in some situations it is beneficial (some women feel less threatened[65]), in others a drawback (several persons expressed their concern with my safety, or were embarrassed by the new experience), and in others people are more concerned with you as a person rather than your gender (Santal men allowed me to be present in the sacred rituals in the *jaherthan*, although women are not generally allowed). Similarly, in some situations it was beneficial to work with a male interpreter (an Indian male researcher said that in doing so people are likely to take you more seriously), in others it was not (some women kept their distance, and it is difficult to know if they had done so anyway, and some people found it difficult to understand how a man and a woman can work together), and in others it did not make that much difference. There are certain customs which do not seem to be influenced by the gender of the researcher and/or interpreter. For example, in some households, when the guardian is present, women prefer to stay quiet partly as a sign of their respect to the guardian, and when the guardian is not present, women ask to come when the guardian is present.

Getting access

Negotiating access, material collection and analysis are overlapping phases of the research process. Access is more than a matter of physical presence or absence. Physical presence may not be problematic, but appropriate activity may be so. Despite my research visa from the Government of India and continuous attempts to get a permit to do research in Jashipur and Karanjia blocks (most of the Simlipal forest is in these blocks), the Government of Orissa did not allow this.[66] So I did research in Mopani, a non-restricted forest village nearby, in Burupal, a plains area village, and met the Simlipal group regularly in Baripada. The Simlipal group did research inside the Simlipal Biosphere Reserve. They have the advantages of being insiders and part of their communities. Even they faced suspicion of few evicted persons, who thought that this research was linked with the resettlement plan, since they had heard that such studies were conducted before resettlement projects. In the plains some villagers feared that this research was aimed at transforming their FPCs to VSSs, since in some villages preparatory plans for this purpose had been made. This approach enabled me to address several issues, and hopefully helped to gain diverse views on the topics. Due to the lack of face-to-face

[65] An elderly woman said that people admire what you do as a woman, but our women can not even go to town by themselves.
[66] Many other researchers – both Indian and foreign – have faced a similar response, and little research is conducted in the 'restricted areas' of Simlipal. My first preference was Simlipal, because it is a large forest with a greater biodiversity than forests in the plains, the residents are mostly *adivasis*, who live far away from *haats* and towns, are more forest-dependent, and are likely to have different knowledge of forest produce than people in the plains.

interaction and participant observation in Simlipal, some of the material of the Simlipal group I did not use in this dissertation, because I was not able to cross-check the information.

Initially because of the permit problems in Mayurbhanj District, the Principal Chief Conservator of Forests suggested Puri Division. The stay there gave me a perspective on what I later learned in Mayurbhanj. I also attended three foresters' JFM training sessions jointly organised by the Orissa Forest Department and the IBRAD.[67] The District Forest Official of the Puri Division advised me to stay in the guesthouse on the campus of the range officer Tangi. The ranger introduced me to one of the five villages (eight kilometres from Tangi) protecting 200 hectares of forest together and having a VSS and a microplan (management plan of the village forest) for ten years. The Forest Department considers this case a success story and it was interesting to see its criteria for success. The following incident is telling of the circumstances. My interpreter, who was a resident of Tangi, met an old man after we had worked there for some days, and this old man said

> Now there's a foreign forest official here. She goes every day to the forest, and we cannot collect anything from the forest. I haven't eaten yesterday. I've no firewood (old man near Tangi).

I was shocked when I heard this. It was clear to me that I could not align too closely with the Forest Department, if I was to attempt independent research. Therefore, in Mayurbhanj I wanted to work independently of any organisation, although I appreciated all the help from the *junglewala*, government officials, NGO activists, businessmen and researchers.

Information on the Forest Department mainly comes from discussions, interviews, questionnaires, participant observation, reports and working plans. At offices, my questions did not usually meet with a positive response. Officials are usually not at ease at offices, because there are many ears eager to listen to the conversation, and they are busy with their work and not too keen to do any extra. Some officials I met in less formal settings, and often had more fruitful discussions there. Some topics, like tree-felling, were more prone to official representations. Rules of politeness can also be a serious obstacle to research. People often make a conscious effort to display ideal behaviour in the presence of guests and researchers. Nevertheless, I did witness family quarrels or quarrels among neighbours, mainly when people were drunk. As it is improper for women to 'mix with men' in many instances, there were prejudices that were overcome sometimes better, other times worse. Some of my questions were apparently unreasonable in the eyes of the informants, but surprisingly few seemed to be considered as unacceptable invasions of privacy or provoked hostility. Some answers people kept deliberately vague, without reference to personal experiences. Assurances that personal names and ranks would not appear in the dissertation did not always reassure, if informants had confidential information. Even if people are often 'more concerned with what kind of person the researcher is than

[67] Mainly the chairman of IBRAD conducted the first training session for the District Forest Official, assistant conservators of forests and range officers of Puri Division about JFM in the Forest Department. The IBRAD staff conducted the second training session for the foresters and forest guards in Tangi, and the third for assistant conservators of forests and foresters in Khurda.

with the research itself' (Hammersley and Atkinson 1995: 83), people's awareness of the power of the pen, photographs or video varies from one person to another, their past experiences and the extent of the rapport and trust.

Informed consent is about informing people about the research in a comprehensive way, and possibly gaining their unconstrained consent. What constitutes free consent? Even in overt research

> ethnographers rarely tell *all* the people they are studying *everything* about the research (Hammersley and Atkinson 1995: 265, italic in original).

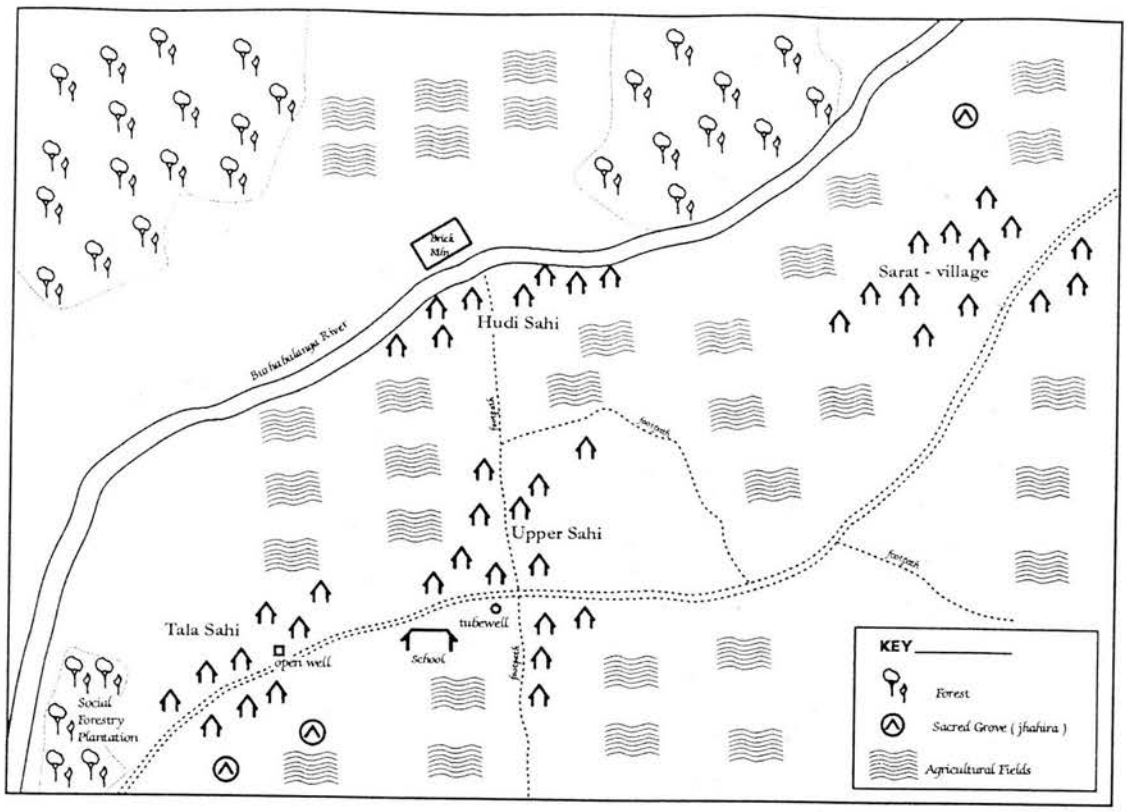
There is a continuum between the covert and the open research, and within the same study the degree of openness may vary considerably (Roth 1962). Although my main interest is forest practices, I said that I was doing research about people in Mayurbhanj. It may be thought that this was half-true, but if I said that I was only interested in people in forests (mainly *junglewala* and foresters), this would influence the discussion in a damaging way. Since I wanted to find out what the significance of the forest was in their lives, I thought the best way was to see the whole context, and start talking about cultivation and then matters directly related to forests. Moreover, there are many illegal activities going on in the forests, so that people may have good reasons for keeping quiet.

People asked me repeatedly what I was doing there: why this woman had come so far to study something everyone knew how to do. Time and again I said that I came from a country where we had different climate and different customs.

> I'm here to learn and document how you live: what you eat, how you cultivate, what kind of tools you use, and what you collect from the forest, so that other people may learn about your situation.

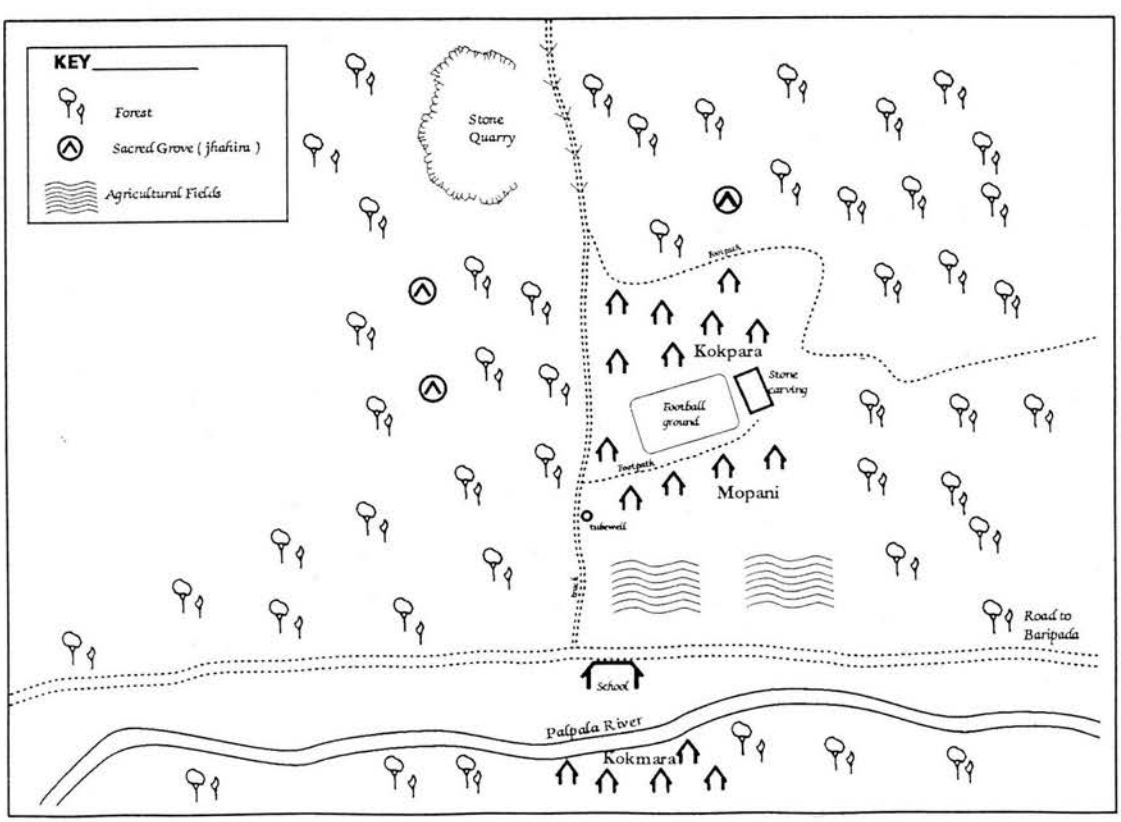
An example of these conversations happened when we were vegetational monitoring in the forest and a Sadgup man of Burupal, who was our expert, asked 'Why do you do this?' and then answered immediately to himself 'To know'. Some informants saw me as a learner, others as a possible channel to knowledge. A Burupalian said, then 'they'll cultivate there as we do here'. I said 'It's too cold for paddy cultivation'. A 55-year-old Santal man, who had worked for Europeans, said several times 'This woman is an *adivasi* and she came to know how the *adivasis* live here'. I said 'Everything I want to know from different communities'. A Sadgup grandmother wanted to send her grandchild with me 'to get more English knowledge', but I said 'He is happy here and you would miss him'. Some foresters and NGO activists asked for an advice on funding and forest management.

Map 5. Map of the case study villages: Burupal, Mopani and the Budhikhamari Joint Forest Protection Committee (No. 73.K, 1 inch to 4 miles or 1 : 253.440, 1933; surveyed 1926-29, 1933). The claimed area of the BJFPC is 3250 hectares, and extends from the National Highway 5 in the North to the Burhabalaga-river in the South. The Burhabalaga-river is one of the main rivers of the District: it derives from Simlipal hills and falls into the Bay of Bengal. It forms the boundary between Baripada and Karanjia Forest Divisions. Coming South from Baripada on the left hand side are the Burhabalaga-river and Hatikot Reserve Forest (557 hectares). On the right hand side are Manchabandha (I & II, 1012 hectares), Budhikhamari (863 hectares), Bhagabat Chandrapur (806 hectares) Reserve Forests. These Reserve Forests and the case study villages Burupal and Mopani are in the Pithabata Forest Range, which is in the Baripada Forest Division. This range has five Sections: Baldiha, Haldiboni, Manchaba, Orachandabilla and Pithabata Sections. The Pithabata Range is surrounded by Deuli Range in the North, Jamsole Range in the North-East, Betnoti Range in the South-East, and Dukura Range in the South.



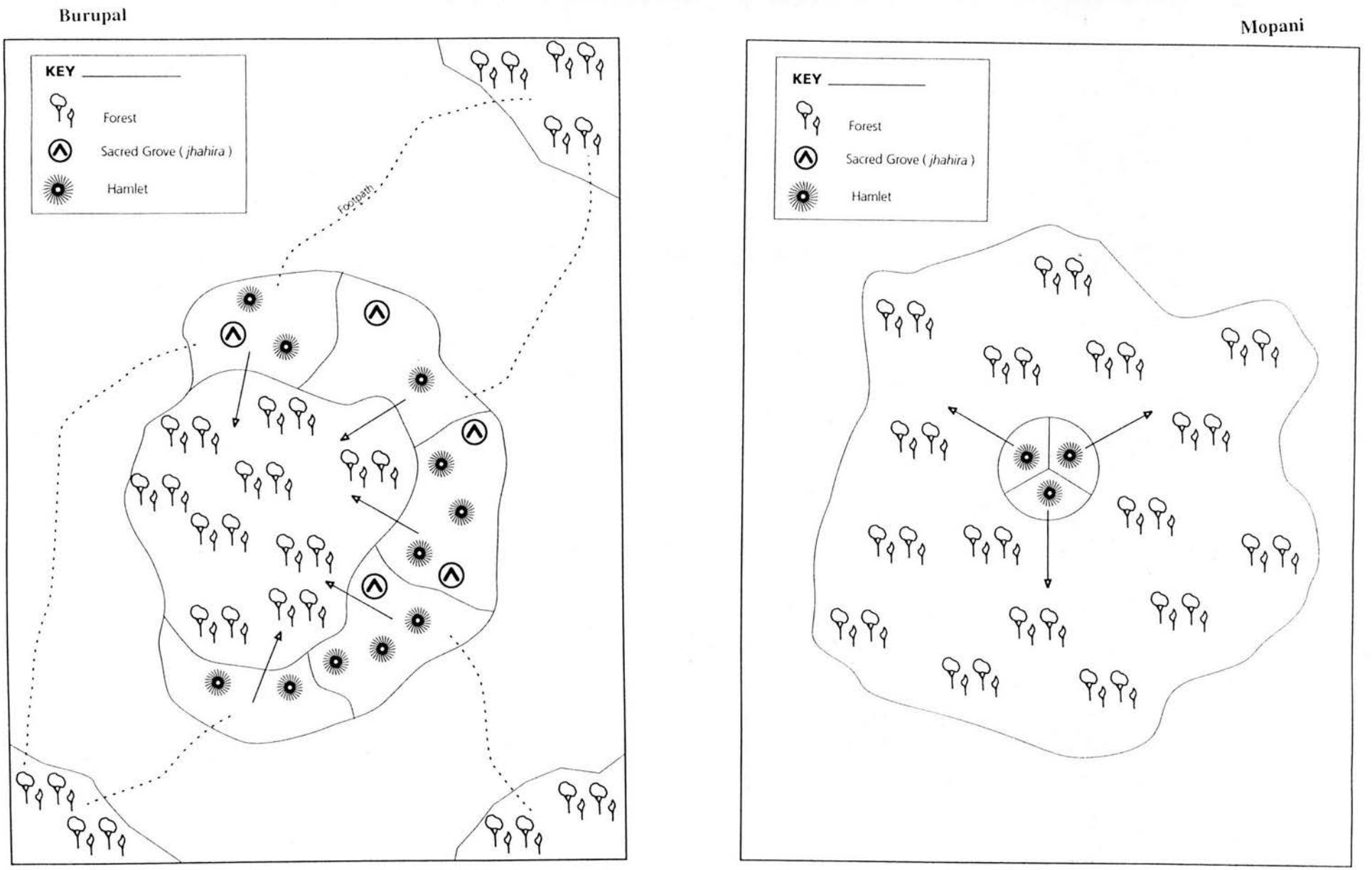
Map 6. Map of Burupal

Burupal is a village surrounded by paddy fields, and has two *jhahiras* in the middle of them. The nearest forest patch is 500 metres from *Hudi sahi* (hamlet), the social forestry plantation is one kilometre from *Tala sahi* by the Burhabalaga-river, and the protected forest is four kilometres from Burupal.



Map 7. Map of Mopani

Mopani is surrounded by agricultural fields on one side, Kokpara on another side, which is surrounded by forest on three sides. Kokmara is on the other side of the Palpala-river. *Jhahiras* are in the middle of the forest. The quarry is two kilometres up the hill from Mopani.



Map 8. Map of the forest use patterns in Burupal and Mopani area
In Burupal area villages are surrounded by fields, and forests may be some way from the village, and for specific produce the *junglewala* may need to go for some distance. Some forest patches are protected by the FPCs, others are not, and villagers meet their subsistence and livelihood requirements from both protected and unprotected patches. In Mopani area villagers cultivate less land, and are surrounded by the forest. Apart from the *jhahiras* within it, the forest has no protected patches.

The research location: background to site selection

I read forest practices as social texts within which interests, knowledges, classifications, conceptions, signs, symbols and meanings of different agents are visible. I do not decontextualise forest practices, since forest practices take on meaning in context, but I reconceptualise them. I investigate forest practices in three localities, Burupal and Mopani villages, and the Budhikhamari Joint Forest Protection Committee (hereafter abbreviated 'BJFPC'), in their physical and sociocultural landscapes. The aim is to get a general picture of the way of life and forest practices in the District, and then do detailed village case-studies of forest practices.[68]

To keep the forest variable similar, there is the same type of forest – *sal* forest – in the case-study villages. *Sal* forest is the most common forest in Mayurbhanj and it provides biomass needs and livelihood to many *junglewala*. The forest surrounding Burupal is a regenerating forest, and the forest surrounding Mopani is a full-grown forest and has older trees, more species and undergrowth. Apart from the *sal* forest, my criteria for selecting the villages were the willingness of the people to have me around, the extent of the forest cover in the area, biomass-livelihood needs of the residents, ethnic composition of the villages, diversity of occupational interests, distance from towns, the presence of the Forest Department, and *junglewala*'s freedom of action. Burupal is a heterogeneous village of *adivasi*, *dalit* and caste communities, and Mopani is a homogeneous *adivasi* village, apart from a general caste *anganwadi* worker (of the Integrated Child Development Scheme). Burupal and Mopani are suited to be case-study villages, because inhabitants combine several ways to gain livelihoods, offer possibilities to compare *junglewala*'s freedom of action in the forest, and enable me to investigate the questions posed in the dissertation. Besides the selection criteria mentioned, I chose to examine the BJFPC because it has a traceable history and its development can be investigated.

I started first in Burupal and, since it is a bigger village, I was there more than in Mopani. I visited Budhikhamari and discussed with the members of the BJFPC many times. I visited several other villages to have some idea of the similarities and differences in villages of Mayurbhanj. I visited the places alternately.

The most known forest protection case of Mayurbhanj is the BJFPC. Some claim that it consists of 95 FPCs. I examined it as well as Burupal village and its FPC, which is on the list of the BJFPC, to investigate the relationship between a single FPC and the BJFPC. Burupal is a plains area village, 13 kilometres from Baripada, headquarters of Mayurbhanj District. Burupal has 64 households from the following communities: one Bindhany (blacksmith), two Baitha (bamboo worker), three Mohanta, one Nayak, 24 Sadgup (traditionally herders) and 33 Santal. The 33 Santal households are further divided into seven clans (out of 12 Santal clans; Chapter 9): one Baskey, one Beshra, two Hansda, two Hembram, 14 Marandi, four Murmu and nine Soren. The 24 Sadgup households are further divided according to their surnames: five Bhunya, seven Ghosh, six Kalia, five Patra and one

[68] While an in-depth inquiry in one village may have been ideal, this would have decreased the possibility of comparative research and the understanding of different circumstances in nearby villages. A researcher unfamiliar with the culture and language may miss something fundamental without comparison, and would not have been able to know what was specific to this particular community and what was not. Nevertheless, the fewer case-study villages, the more detailed knowledge of them.

Pradhan. Many communities use caste and (sub)clan names as surnames. Surnames, such as Mohanta and Bindhany, reveal a person's community, and the surname Marandi reveals a subclan of a Santal. Most *junglewala* said that their occupation was cultivator, but due to small-holding sizes (less than two hectares) and the cultivation being mostly rainfed, they cannot depend solely on agriculture. The major cultivated crop is paddy.

Mopani is a village already inside the Simlipal Biosphere Reserve (three kilometres from the bordering forest gate), 25 kilometres from Baripada. Mopani has 11 households: six Sabar, four Bhumijo and one Mohanta household. For a long time Mopani has been a stone quarry village. Since 1991 the Forest Department has tried to stop quarrying, because it is not allowed in National Parks, the status they have seeked to establish for Simlipal. Villagers oppose this, since stone-quarry work is the traditional occupation of most of them. They have had a long court case about this matter. The *junglewala* need to eat – whether they cut stone or trees to gain their livelihood is a controversial issue.

Illegal activities in the forest are common and especially in the beginning people mistrusted us. Some villagers feared that this research was part of the resettlement plan of the Simlipal Tiger Reserve. Many tree-fellers and hunters pass this village on their way to do their businesses. Because of the *adivasis*' and *junglewala*'s history of harassment and their role as scapegoats of deforestation and smuggling, some did not want to be exposed to further public scrutiny. They were living in difficult circumstances with smugglers, and were afraid that what we found out might cause them more problems. This was not helped when some foresters asked from the villagers what we were doing. The case-study of Mopani addresses partially different forest issues, and therefore offers an interesting case to compare with Burupal.

Initially my plan was to concentrate on Burupal and Mopani villages, but there is much networking, linkages and co-operation between the nearby villages, and a village cannot be cut off from its neighbours. Burupal is closely linked with Sarat (Autumn) that has Mohanta and Santal population. They share a forest patch and an FPC, visit each other's houses, celebrate some festivals together and their children may go to the same school. Mopani has close ties with two neighbouring villages, Kokmara and Kokpara, which both have mainly Bhumijo population. Although they are separate revenue villages as far as the official administration is concerned, villagers do not necessarily see themselves as living in different villages, but in different hamlets. Mopani is right next to Kokpara, and boys from the three villages play football on a small ground between them. They share the same forest, *jhahiras*, quarry, well, river, *anganwadi* centre, school, and residents of the three villages may collect forest produce in a group. Friends and enemies know no village boundaries.

The case studies will show that assuming a commonality within a village, a community or a household may be a mistake. A (revenue) village is an inhabited place, a collection of dwelling-houses and other buildings, and a hamlet is a section of the village. A comm-*unity* refers to a character, quality, state or interest held by all in common; a body of individuals organised into a social unity,

who have certain circumstances of nativity, religion or pursuit common to them, but not shared by those among whom they live. The case studies will show that rural communities have diverse forest practices, and residents of the same village may have a variety of relationships with the forest (subsistence, commercial, ritual practices). Even in an apparently homogeneous village, different households start out with different resources at their disposal and varying perspectives as to what is feasible and end up with diverse strategies, which respond to actual and perceived constraints. Although there is some commonality among villagers, the household interviews will show that there is variation between and within communities. There are often (sub)communities within a community. For example, a Santal community is further divided into clans, sub-clans, lineages, affines, families and households. Other internal differences are due to several factors: gender, age, generation, caste, land and livestock ownership, wealth, occupation, education and their life experiences. Internal differences change, since every family and household goes through a development cycle of being born, growing and dying.

Name of village	**Number of households**	**Population**	**Community**	**Caste or tribe**
Burupal	64	302	Bindhany 1 Baitha 2 Mohanta 3 Nayak 1 Sadgup 24 Santal 33	general caste *dalit* (SC) general caste general caste general caste *adivasi* (ST)
Sarat	70	(315)[69]	Mohanta Santal	general caste *adivasi*
Mopani	11	46	Bhumijo 4 Mohanta 1 Sabar 6	*adivasi* general caste *adivasi*
Kokmara	4	(18)	Bhumijo 4	*adivasi*
Kokpara	56	(252)	Bhumijo 45 Bindhany 2 Dehuri 1 Majhi 1 Mohanta 4 Mukhi 2 Sethi 1	*adivasi* general caste *adivasi* *adivasi* general caste *adivasi* general caste

Table 1. Households and communities of the mentioned villages

Although in the case-study villages most residents cultivate land, they have an important bond with the forest, be it for their daily livelihood or ritual purposes or both. Many festivals and rituals are bound to the agricultural cycle (planting, harvesting, first eating) and forest cycle (availability of particular forest produce). Most households depend on a complex, diverse and risk-prone production system combining various sources of sustenance and income: agriculture, animal husbandry, collection of NTFP, daily labour, and cottage industries of leaf, rope and stone plate-making. Most households are *hatua* and sell produce in nearby *haats* (local market) and in Baripada. Some middlemen regularly

[69] The three population census figures in parenthesis are estimates based on the number of households; for example, Sarat 70 households x 4,5 persons = 315. Some residents live away part of the year.

visit villages and *haats* to buy produce cheaper, and villagers avoid the transportation to a *haat* or to town. For example, a middleman, who is a resident in a neighbouring village, has come twice a week for three years to buy *sal* leaves from Burupal. Many Mopanians sell their produce to middlemen in *haats*. The *adivasis* make leaf plates in Burupal (*sal* leaves) and Mopani (*sal* and *siali* leaves). Some Burupalians cultivate *sabai* grass and/or make *sabai* rope. Some Sadgup families of Burupal do cattle business regularly, and in a nearby village there is a Balijhoda cattle *haat*. If villagers have money or something to sell, they go to nearby *haats*, Ahari being closest to Burupal, and Baldiha and Kochilaghati closest to Mopani. Sometimes they also visit other nearby *haats* or go to Baripada to buy foodstuffs, consumer goods, clothes, jewellery, sweets, *paan* (from *betel* leaves) and *handia* (rice-beer), or to meet people.

Methods

Methodological pluralism does not mean that 'anything goes', but that the methods need to fit the problem at hand. Research is simultaneously

> empirical (it confronts the world of observable phenomena) and theoretical (it necessarily engages hypotheses about the underlying structure of relations that observations are designed to capture) (Wacquant 1992: 35).

Denzin and Lincoln (1998: 3) consider qualitative researcher as a *bricoleur* who connects the parts to the whole, stressing the meaningful relationships in the particular context. I used a variety of methods in this research: open-ended discussions, interviews and questionnaires, library research, Participatory Rural Appraisal methods (hereafter abbreviated 'PRA'),[70] participant observation, photography and camcorder filming. The bulk of the reported results comes from open-ended discussions and interviews with informants (individually and collectively), together with participant observation and library research.

Interviewing is an interactive process involving the expectations of the informants and interviewer. I did non-directive (where the interviewer is an active listener) and directive questioning and reflective interviews depending mainly on the informant (Hammersley and Atkinson 1995: 155). Structured interviews are more focused and allow more control, but easily make a research into a self-fulfilling prophecy. I prefer a flexible approach, allowing the discussion to flow in a way that seems natural, and emphasised the view of interviews as discussions and conversations. My interviews varied from semi-structured to unstructured interviewing. Interviews are split into relevant sections in the text, since it is beyond the scope of this work to present them as they went in reality. For instance, a forester expressed his opinions on JFM, Simlipal and the Forest Department within a discussion, and I split these topics into relevant sections. I present various views on forest practices and livelihoods

[70] PRA, later called Participatory Learning and Action (PLA), is a methodology for interacting with research-subjects and learning from them. In this research the following PRA methods were applied: village resource mapping, transect walk, *chapati*-diagramming, matrix scoring and ranking, brainstorming, daily routines, seasonal calendars, historical profiles and time lines.

while aware of the fact that in some cases people either unwittingly told me factually untrue things, withheld information, or deliberately deceived me. The main issue for me is not the knowledge base of the person. 'Facts' may speak against his/her knowing, but I try not to put a value judgement on it.

> Separating the question of the truth or falsity of people's beliefs from the analysis of those beliefs as social phenomena allows us to treat participants' knowledge as both resource and topic, and to do so in a principled way (Hammersley and Atkinson 1995: 126).

I used three kinds of open-ended, mostly orally conducted, questionnaires: foresters' questionnaire, NGO questionnaire and household questionnaire (Appendix 14). I adopted an open-ended ethnographic approach that left space for informants to mould my research design. Some questions are the same in all of them:

> How do you define a 'good' and 'bad' forest?
> What species should be planted?
> What is a good forester?
> What kinds of knowledges, skills and attitudes do the foresters, villagers and NGOs have?
> How do you see the future of the forests in Mayurbhanj?

The foresters' questionnaire was long and open-ended, and it was available in two languages: English (rangers) and Oriya (foresters and forest guards). It was difficult to get many foresters to answer the questionnaire. Many said they did not have time, and the extent to which this was an excuse for unwillingness is difficult to know. Since the Forest Department is a hierarchical organisation, there is also a fear of higher officials that makes some answers cautious. A questionnaire is more threatening to bureaucrats than informal discussions, since it is easier to make them accountable for written accounts. In informal discussions it is easier to create a more relaxed atmosphere, and this is why I am least satisfied with the foresters' questionnaire conducted in a written form. I distributed 25 questionnaires and got back six written questionnaires, which were helpful. I discussed at some length and in some depth with 19 foresters (four of them answered the questionnaire), and most of the information included here is from the in-depth discussions with seven forest officials of different ranks. Starting off with professional career information, the following questions are examples of the questionnaire:

> What is your opinion about JFM?
> What are the advantages and disadvantages of transforming FPCs to VSSs?
> What is the role of the Forest Department in FPCs/VSSs?
> What is the impact of transfers to your personal life and forest management?

I asked a senior forester why he was not afraid of talking with me, and he said 'What I should be afraid of? We're talking in good intention.' To another forester I said 'I appreciate your honesty', and he said 'Few people have scope to compile data', and that his aim was to conserve forests. Some foresters were critical of the administration of the Forest Department and different forest management approaches, and recommended improvements. Throughout this dissertation 'a forester said' refers to a discussion, and 'a forester wrote' to a written response to a questionnaire. The generalisations of foresters that I make are especially visible in the documents, reports and publications of the Forest

Department, although among the foresters there are diverse views and approaches. In this dissertation I have focused on the *junglewala*, and have not elaborated the diversity among the foresters as much as I would have hoped.

I selected for closer analysis only forest-related NGOs, and NGOs which were active in the case-study villages. From nine NGOs I asked about their NGOs own life history, the number of staff, and funding. The following questions are examples of the questionnaire:

> What is the role of NGOs in forest practices?
> What are the advantages and disadvantages in being part of your NGO?
> What criteria do you use in choosing the villages where you work?

We carried out a detailed household survey of 75 households, households in a sense of separate eating groups or kitchens of shared consumption.[71] When doing these household interviews, I became more aware of the limitations of the PRA methods and village surveys that do not interview all households. Household interviews show that the assumption that the 'village is a community with one voice' is not the reality of the villagers. There are household differences within the same community, and personal differences within the same household. Most household interviews were done with the guardian, and often other members were present and took part in the discussion. If the guardian was not present, often the women and other family members asked to come again when the guardian would be there. A Hindu woman is not supposed to address or refer to her husband by name. The wife refers to her husband as 'he (has come)'. Among orthodox Hindus, it is considered immodest to refer to one's wife; hence the use of 'family' as a euphemism. 'The family is here' may refer to the wife alone.

The household questionnaire includes several questions, such as name, age, religion, caste, occupation, education, diseases, daily activities, livestock (fodder, grazing), agriculture (land, irrigation, crops, labour), expenditure (rice, food, education, clothing, medicines), forest collections (firewood, leaves, seeds, mushroom, tubers and medicinal plants), forest practices, protection and organisational activities, exposure to radio and newspapers, and contact with government officials. We used the household questionnaire as a structure, and left space for diverse aspects important to the particular household or person. Some talked widely and had many stories to tell, others briefly, sometimes with revealing metaphors.

While conducting these interviews, several problems arose. People might want to present their case in favourable circumstances to their activities (lip service) or hide information. In some household interviews, especially at the beginning, villagers tried to hide some information, since they were aware of the Below Poverty Line-surveys, and thought that by presenting themselves as poorer, they might benefit more.[72] So there were cases when an extended family claimed to be divided to two kitchens, or informants claimed they had no animals, although the goats were bleating desperately

[71] In this dissertation I have included 75 household interviews in Burupal and Mopani. We and the Simlipal group conducted several others, but since they were more piecemeal with selected households, I did not include them here.
[72] A family with an annual income of Rs. 11,000 or less with reference to the price level of 1991-92 is considered to be below the poverty line.

behind a door to get out, or claimed them to be neighbours' or relatives' animals. Often informants who were involved in commercial tree-felling or liquor-making did not say anything about these when talking about income. Some people answered honestly, others tried to hide something, others cheated, and many did all this during a single interview (depending on the questions). Sometimes there was disagreement within a household over what to say. For instance, a wife said to her husband in the middle of the discussion 'Don't say everything'. Sometimes I wished that some informants would not be so drunk so often. Sometimes answers and discussions told a lot about the worldview of that person, perhaps more than that person realised. For example, illiterate persons may automatically count themselves out from expressing opinions, but with encouragement may express very insightful thoughts. It seems that the quicker household interviews are conducted in a village, the better, since some people try to influence other's opinions and views.

The advantages of having a long questionnaire are that sometimes in the beginning people are careful not to say much, but after some discussion they may become more talkative and say more what they honestly think. A disadvantage is that in a few cases people lost their interest altogether, and in the end they just said 'yes' and 'no' answers. If this was the case I asked if the timing was inconvenient, and we would come again, and/or covered the main points. Within the same organisation or unit, whether the Forest Department, NGO or a household, one finds contradictory conceptions, opinions and interpretations. I often felt like a detective trying to find out what was lip-service, individual or group perspectives or which clues would lead closer to the actual reality. A discussion has many benefits compared to an interview, where the interviewer sets the questions, poses them and analyses the responses away from the informant. This imbalance may be lessened by myths, rituals, storytelling, poems and songs that I was eager to learn, some of which I shall present mainly in Part III.

I did participant observation with Spradley's (1980: 82-3) descriptive questions matrix of space, object, act, activity, event, time, actor, goal and feeling in mind. His goal is to have an ethnographic record that reflects the differences in language usages as the actual field situation rather than creating an amalgamated language with unidentified mixture of usages spoken by others. To do this I kept writing, and when I met Dr Roy during the fieldwork (26 March 1997) I said 'The notebook has become part of me like breathing'. Many informants asked 'Why do you write all the time?' I answered 'I have a poor memory'. I took part in several household activities, festivals and rituals. Nevertheless, Hobart's comment on participant observation is highly relevant:

> In anthropology there is supposed to have been an equivalent revolution, from the armchair disciplinarians of collated facts (now in vogue again) to participant–observation, a visual image which overlooks how much fieldwork depends upon talking and questioning (1995: 57).

Library research covers a wide range of material from many libraries.[73] The historical account of the District as an administrative unit is based on government records, statistics, censuses, and working plans, documents and reports of the Forest Department, and discussions with various informants (oral information). The *junglewala* and foresters provided information on the history of logging, fires, cleaning and pruning operations and plantations (when, what species, how many, survival levels). Since memory is not perfect and people remember filtered experiences, I used written and spoken accounts side by side, complementing each other. The less people were able to articulate their tacit knowledge, the more I have relied on my observations.

I used participatory research methods as a way to learn about forest practices and attitudes people have, and to see their helpfulness in anthropological research. PRA is a family of approaches and methods that enable people to present, share and analyse their knowledge of life and conditions, in order to plan and act. PRA methods are related to the constructivist paradigm, according to which meaning and function of anything is determined by the 'context' in which it occurs (Mukherjee 1997). The idea behind these methods is to 'hand the stick to the locals' who know their situation best. Many NGOs are keen to use PRA methods, and for instance the IBRAD trainers encourage foresters to use them.

In both villages I used PRA methods in the beginning to give a rough, general picture and as a way to introduce and interact with the villagers. After village resource mapping and transect walk I used other methods that yielded more detailed information and did not restrict the diversity of different agents' views. During the first visit to Burupal we did a village resource map using PRA methods near the tubewell, so that many people would take part. The Burupalians made the map using sticks as pens; and cowdung represented the houses, and different grasses represented the river, wells, fields, and forests. Then we did a transect walk around the village with a 10-year-old Sadgup girl as our guide. Group discussions, village discussions and PRA methods have the following disadvantage especially: extroverts may influence the opinions of the others, or silence the others with their presence. This may happen also within a household. For instance, a father and son or a husband and wife may have disagreed, and then I tried to find out their views with respect to their customs: a younger person should respect an older person, and a wife is supposed to let the husband express the views of the household to outsiders.

While PRA is a group or collective activity, this research included both more and less public PRA sessions. In the workshops of the Simlipal group we used the following PRA methods: *chapati/Venn* diagramming (shows the key institutions, organisations and individuals in a community and their relationships and importance for decision making), matrix scoring and ranking (to express preferences against comparable criteria), brainstorming (mind maps), daily routines, seasonal

[73] Apart from libraries in Britain and Finland, I visited the following institutions and their libraries: Centre for Science and Environment, Indian Social Institute, Society for Promotion of Wasteland Development, Department of Anthropology in Delhi; Anthropological Survey of India and the Asiatic Society in Calcutta; IBRAD in Calcutta and Kharagpur; Xavier Institute of Management, Centre for Youth and Social Development, the Tribal and *Harijan* Research-cum-Training Institute, and Utkal University in Bhubaneswar.

calendars, historical profiles and time lines. We made a rough monthwise scoring of the range of availability of NTFP: plenty or abundant, limited or sufficient, and rare or insufficient. In the Simlipal group the advantages of PRA methods outweighed the disadvantages, and they were helpful because there was an atmosphere of co-learning. For example, a Santal was learning about Kolho medical practices and vice versa, and we discussed similarities and differences between different *adivasi* communities. The members of the Simlipal group are young men, since it was easiest for them to move to Baripada. The limitations of working with the Simlipal group were that I was not able to use participant-observation to cross-check some of the information, and I talked with young men about women, children and the aged. According to Bodding,

> the Santal young men are supposed to go through a kind of course in *mantras* and medicine among other matters (1986:134).

Perhaps this helped our groupwork. A person acted as a kind of a leader of the group, but not to the extent that others did not present their viewpoints. Rapport building with the Simlipal group was good, since it extended over longer time, hence there was less need for official representations and more possibilities for informal ways of communicating. With this group we were able to cross-check many things, but I also asked other people about various matters to cross-check information. PRA methods provide an alternative setting for material collection and analysis, information is discussed, recorded, preserved and analysed publicly. PRA methods were more helpful in less public sessions.

Why is the concentration of this ethnobotanical research of medicinal plants on the Simlipal forest? There are two main reasons: the forest and the residents of Simlipal. The Simlipal Biosphere Reserve is a large forest (2,700 square kilometres), and the total area has not been clear-felled or burned at one time, so there is more biodiversity than in the regenerating forests of the plains. So far the residents of Simlipal cannot afford to forget the knowledge of medicinal plants, since the official health care system is not reaching them most of the time. Simlipal has inaccessible areas, especially during the monsoon. When people fall ill, they have to rely on medicinal plants growing in the forest to a greater extent than people living in the plains. In the plains, the introduction of the allopathic medicine has been fast, and people rely increasingly on allopathic medicines.

In this participatory ethnobotanical research we did with the Simlipal group their knowledge played a major role.[74] They collected the plants, identified them and discussed with *kobirajes* and *kunis* of their villages. One participant was a Santal *kobiraj*, who uses also ayurvedic medicine, and another one's uncle was a Mundari *kobiraj*. We discussed what kinds of attitudes, beliefs, knowledges, uses and skills people have about different plants, and how they are used for medical purposes. We collected the following information on 142 plants: local names, classification of the plant, appearance (colour), history, life habitat (availability, place and season), household consumption, market consumption (commercial value), medicinal use, gastronomic (desirability as food), worship use,

[74] A Lohar *kuni* (non-*adivasi*; ironworker) was with the Simlipal group in one session for three days. He is an old man, and it was difficult for him to come more often.

preventive, curative, restrictions on use, poisonous, sacred, locally exhausted and natural indicator. As a footnote for every plant I included their Kolho, Mundari, Oriya and Santal names, the name of the disease they were used against or for, reference to allopathic disease terminology when known, the quantity, the method of preparation, the dose of the medicine, whose knowledge it was, which ethnic group, and whether specialist or community knowledge. The most common diseases are likely to be the ones for which they have most remedies (Chapter 8: The forest heals). After documenting most of the above information, I went to see a professor of botany, Dr Dubey of M.P.C. College (Baripada), and he helped me to identify the botanical names of these plants to cross-check and find out more information in botanical literature (Haines 1925; Saxena and Dutta 1975; Saxena and Brahmam 1989; Tribal Medicine 1993; Martin 1995; Jain 1996). Although there are many ways to spell local names, we found most of the botanical names.

I also used audio-visual methods. I took still photographs and filmed with a camcorder. I assumed that people would be hesitant to be in photos and on film, but most of them were 'photo-crazy' and often asked to be photographed or filmed. I took many photographs and filmed often, so for some people I was a photographer, since this activity was visible. After a while I was also allowed to film rituals and they went about their activities, such as offering chickens to spirits. Photographing and filming of different everyday and ritual activities can be helpful tools in anthropological research, not only as tools in rapport building. While tape recording provides a more detailed record than fieldnotes, non-verbal aspects of the physical setting go unrecorded. To cover these I used jotted notes, photographs and video recordings. Video recordings help memory and make some issues more explicit, such as gestures, body language, expressions, interaction with one another, activities (how the stone is cut, or leaf plates made), music, songs and dances (who plays, sings, dances and how), and what the forest looks like. I am planning to work on audio and visual recordings after the dissertation.

I use a three-pronged methodological approach. First, I use three main sources of information, informants, academic material and media, to lessen a sectoral view of reality and reduce biases. The views of the informants may represent their individual beliefs or majority or minority views of their communities and organisations. Partly, I incorporated informants' words into the text without systematic description of their identity. When there are similarities in their views and a pattern emerges, I regard their views as archetypes of the collective unconscious indicating deep mental structures (often represented in myths and cosmologies) more than as individuals' beliefs.[75] Partly, I incorporated them into the text with some description of their identity to provide another angle and show the diversity in views. I mainly refer to informants with reference to their ethnic, gender and occupational characteristics, such as 'a Santal woman' and 'a forester', and sometimes with pseudonyms. The second source is academic material, which contributes to the development of analytical arguments, and is a source of ethnographic material (presenting a particular cultural

[75] Overing (1985: 175) encourages us to 'recognize the creative aspect of metaphoric thought, to treat a literal statement *as if* metaphor may allow us to be more creative in discovering the system of relations recognized by our informants in their claims that their utterances are true ones.'

viewpoint). The third is information from media: newspapers, magazines, novels, posters, leaflets and the Internet.

Secondly, I apply diverse tools and methods to enhance the quality of the information obtained. Different methods have their advantages and disadvantages, and I use them in complementary ways. Triangulation or the use of multiple methods, such as the use of qualitative and quantitative material in conjunction, aims to secure an in-depth understanding of the phenomenon in question.

> Triangulation is not a tool or strategy of validation, but an alternative to validation (Denzin and Lincoln 1998: 4).

Thirdly, this research incorporates a multiple-actor-analysis with multidimensional thematics and multidisciplinarity. An actor-oriented approach focuses on social meanings, the views of the actors and the social rules. An actor-oriented approach brings in multiple dimensions of thematics and therefore multidisciplinarity (Chattopadhyaya 1996) serves well here. Although this research is mainly anthropological, a multidisciplinary approach incorporating ethnoforestry, ethnobotany, ethnomedicine and development studies helps to understand the forest–people interactions. Anthropology, with its all-encompassing view of culture, can advance multidisciplinary work. For example, studies of development can be broadened in scope and to move within and beyond economic emphasis, and resist the hegemony of prevailing development models. An integrated perspective implies a willingness to learn from one another and investigate what diverse approaches have to offer, and strives for an in-depth understanding.

The aim of a theoretically reflexive ethnography is to open up new conceptual space (Vries 1992). The melting and dissolving of the categorical boundaries and how the different worldviews and models feed up to each other can create new understanding. Apffel Marglin (1990: 140) argues for the 'decolonization of the mind', and claims that decolonisation 'has taken place on the land, but not in the mind'. On one level, there has been decolonisation of land with the independence of colonised nations, but on another level, the colonisation of land remains with the nature–human dichotomy (human supremacy). This ethnographic research is part of the process to decolonise anthropology by stopping to validate Western theories universally. By using pre-articulated categories of the West, Western vision is redeployed in transnational descriptive narratives, where the South (cultures, places and peoples) is used as source-materials to produce knowledge (Said 1978; 1994). 'Cases' explicate Western theory without recognising non-Western roles as equal partners in cultural production (Moore 1996: 3). This dissertation aims to contribute to a shift from the dualist, unilinear ordering of thought and the confrontations with the other (whether a villager, a forester, forest, nature) as savage and local to seeing the savage and local within. Hierarchical dichotomies and unequal partners in cultural production hinder and ignore the possibilities of plurality in conceptions, worldviews and cosmovisions.

PART II: FOREST PRACTICES: SOCIOPOLITICAL CONTEXT OF VILLAGERS' AND STATE FOREST PRACTICES

The second part largely focuses on the socioeconomic and political aspects of forest practices. I investigate the *junglewala*'s and foresters' views of forest practices in Mayurbhanj. I analyse the sociopolitical context of villagers' and state forest practices, knowledges, livelihoods and their representations. What practices, knowledges, uses, skills and beliefs support or threaten *junglewala*'s livelihood sustainability? I start off with a description of the daily and seasonal life in the villages. Then I investigate forest practices in three places: Burupal, Mopani and the Budhikhamari Joint Forest Protection Committee (BJFPC).[76] Then I discuss few forest protection songs and slogans, the 'green hymns' of forest protection, and in Chapter 9 (Men as certain trees...) compare them with folksongs. Then I examine older practices of *jhahira* and *akhand sikar*. I conclude this section with a brief discussion of a state control-participation-self-rule continuums, and engaged and detached conceptions of the environment that these forest practices reveal.

Chapter 4. Two forest villages: a comparison

A sense of the places: daily life

Sunrise makes the colours of the plants brighter, as if the leaves took a deeper breath with the power of the sun on a clear morning in winter. Rays of sunshine turn the new leaves to gold. The leaves of regenerating *sal* trees are at reachable height, so many leaves are picked during the day near Burupal. Collecting and preparing *sal* leaf plates and cups is mostly the work of the *adivasis*.

In Burupal, people rise very early in the morning. Burupal is situated near the Burhabalaga river, in the plains 13 kilometres from Baripada. There are 64 households, from *adivasi* (Santal), *dalit* (Baitha) and caste (Nayak, Mohanta and Sadgup) communities. Many do their errands with *dantoons* (toothbrush sticks, mostly of *sal* and neem) in their mouths. Many men set out to work their fields with bullocks and a wooden plough, usually made in the village. Bullocks, cows, goats, pigs and fowl are kept in the village at night and manure has to be cleaned away in the morning. Herders, many of them children, take the livestock out to graze on the riverbank or fields during the day. Women and girls start the day by sweeping the courtyard with a short brush. Then they prepare the first meal. The most laborious part is husking *dhan* (unhusked paddy), which is done with a *dhenki*, a large wooden mortar and pestle. After husking, women winnow the husks from the *chawal* (husked, uncooked ricegrain) with a bamboo-made winnowing-fan. The rice pot is placed on a stove. Around nine o'clock the families are back (unless working elsewhere) to eat their first meal of the day. During the hungry season, from June until the new harvest, some households have tea in the morning, and their first meal

[76] While in the case-study villages, it would have been valuable to attend a meeting or training session involving the foresters and villagers, but during the fieldwork I did not witness these (although I did attend some in other villages), and hence this discussion is grounded on conversations. I did witness foresters' daily visits in Mopani, and how the social forester helped the Burupalians with a plantation court case (fn. 138).

in the afternoon. The general caste, *dalit* and *adivasi* communities eat different kind of foods. The general castes eat *bhat* (cooked rice, filtered after boiling), *roti* (non-leavened bread) and *mudi* (puffed rice), while the *adivasis* and *dalits* eat usually *pakhal* (watered rice).[77] *Pakhal* is boiled in water into a kind of rice-gruel, and used by people who have little rice. Caste women cook twice a day partly because it is their custom, and because they may have more time for cooking since they seldom work outside the home compound due to *purdah* or gender segregation. *Adivasi* and *dalit* women cook once a day. Children are breastfed for a year, and then given the same food as adults.[78] Usually men eat first and bigger quantities, and then women and children. In some households, children are fed twice a day, and adults eat once a day. There are rules about who can cook for whom, and who can eat whose leftovers, that vary from community to community.[79] Hence, food is part of defining a person's identity.

Then, if there is work, people set out to work. Many children set off to the *anganwadi* centre or school. Teaching is in Oriya, although small *adivasi* children do not know Oriya well, and have the constitutional right to have primary education in the mother-tongue. In some households children are not sent to the *anganwadi* centre or school, because they need to work. General caste women remain in the village during the day. *Adivasi* women do housework and work in the fields, vegetable gardens and forests. Forest work is mainly searching, finding, collecting and transporting animal fodder, fuelwood, *sal* leaves and other forest produce.[80] Younger women, especially the daughters-in-law, do the most physically demanding work. Women move in groups in the forest to have company and security. Although women work hard in the forest, they also stop for breaks, gossip, joke and laugh with their workmates, relatives and friends. In the village and house, women are surrounded by men, parents-in-law and senior kin, whereas in the forest they are usually with a group of other women. Social relationships in the village and house are more restricted, especially for young daughters-in-law, than in the forest. There are many restrictions and intricate conventions on caste and *adivasi* women in the village and house. For example, Santal women should not be touched by a shadow of their 'younger brother' (including cousins) or sit on a cot in his presence. The male relative must not tread a rice pounder for her, touch her or her shadow, her bedstead or clothes, or sit by her side or squat on the same mat. If he accidentally touches her, the two take water in a cup, pour it over each other and do *johar* (Archer 1974: 82). Men's work is ploughing, work requiring the use of bullocks, and repairs in

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[77] Rice in everyday use is *usuna chaula* (par-boiled, twice-boiled rice), and in ritual use *arua chaula* (sundried, once-boiled rice). *Torani* (rice-water) is liquid of *pakhal* that people drink especially if they do not have clean drinking water. It is also given to domestic animals.

[78] Many mothers are poorly nourished and anaemic resulting in poor production of breast milk. After six months children need solid food, but many do not get it in their first year at all. Orissa has the highest infant mortality rate in India (*The Telegraph* 8 June 1997).

[79] According to the Santal eating rules, a Santal may not eat with a non-Santal, and a Santal woman may not eat any food cooked by a non-Santal. If a Santal woman eats *Dikus*' food, she is punished as if she had had intercourse. Several Santal relatives are forbidden to eat from the same plate. If husband and wife eat from the same plate, it 'disqualifies the man for life from making sacrifices to the bongas. "He has become a woman"' (Archer 1974: 84). Some relatives, such as spouses, cannot consume each other's leftovers, but the younger relative can eat the leavings of the older (Archer 1974: 83-4).

[80] For a detailed inventory these plants are identified in Appendix 3: A seasonal calendar of forest produce; Appendix 4: The different uses of forest trees; Appendix 5: A matrix ranking and scoring of forest plants; and Appendix 6: Glossary of vernacular and botanical names of forest species.

the fields and in the house. Most households collect firewood and fodder from the forest. *Adivasi* women headload firewood and men from different communities shoulder-, cycle, or cart-load firewood. The Santal collect mushrooms, tubers and medicinal plants for household consumption. Most *adivasis*' daily rhythm takes place between village, field and forest. Many Burupalians work as *mulia* or *muliani* (male or female daily labourers) in Burupal, neighbouring villages or Baripada. A few Burupalians are seasonal migrants: they stay half a year in the village, and after harvesting another half in the place of work, for example making bricks in Balasore (60 kilometres from Baripada).

After work the Burupalians bathe in a nearby river or wash themselves at the well. The Santal eat the main meal around five o'clock. It consists of *pakhal* and some vegetables, *dal* (lentil soup); rarely an egg, fish[81] or meat.[82] Many households have to get along with a minimum of food, and some have problems getting rice all year round: 'We don't have enough rice', 'We've rice, not curry' and 'If salt [with rice], it's sufficient for us'. Some get ration cards from the Public Distribution System that allow them to buy certain necessities, like rice, wheat, sugar and kerosene oil, at a lower price than in the market. During the hungry season the Santal often dilute their rice with water, and say they are 'looking at the stars' (Archer 1974: 39). After the harvest and during festivals and *pujas* (rite of offering; a gift of flowers or fruit; ritual meal) people eat more, and make cakes from rice powder, molasses and coconut. After a dinner similar to the first meal, the *junglewala* relax and socialise with family and friends. Around nine o'clock at night most *junglewala* go to sleep. Going to bed early is a way to economise on kerosene oil. Some men stay up late and drink some *handia*.

Mopani, the second village studied, is situated on the foothill of the Simlipal Biosphere Reserve. There are 11 households from the Bhumijo and Sabar communities and a Mohanta *anganwadi* worker. The Mopanians also rise early in the morning and do similar day-to-day chores as in Burupal. The main difference is that Mopani is a stone quarry village. From Mopani there is a two-kilometre way up the hill to the stone quarry, where one hears the sounds of stone-cutting and stone carving. Despite these sounds the carvers have seen elephants, bears and pawmarks of tigers. The quarrying, cutting and carving of stone is hard physical labour. The workers are completely covered all with stone dust. They start working between 6 and 7 a.m. and return to the village at 4 p.m. They take no *tiffin* (food) with them, but eat at home after work. During the period of the field research five men, two women and one boy worked regularly in the quarry. A team of two men did the final carving of stone plates in the village itself, where the sound of pulling ropes and stone carving was heard during the day.

There has been a court case between the Forest Department and the Mopani Stone-quarry Co-operative Society, and villagers are afraid that the Forest Department will stop the quarrying

[81] Some fish are caught with nets, fish traps, line and hook, and by poisoning with plants in the paddy field, tanks or rivers. Men fish bigger fish, and *adivasi* and *dalit* women smaller fish without using a line and hook.

[82] Villagers try to have meat-curry during festivals. They eat mainly fowl-meat, but the Santal may also eat rats. To catch rats two holes are made, and in one of them fire is made and when the smoke reaches the other end, there is a net waiting for the rat. Then the skin of the rats is burned on fire, cut to pieces and put on a pot with mustard, onion, garlic and eggplant for one hour. 'Rat is tasty', said a Santal man preparing this meal. Hindus do not eat rats; the rat is sacred as the vehicle of Ganesh, elephant god.

completely. Many villagers are already unemployed or underemployed, and since most have little land or are landless, they have tried to find alternative sources of income and some have become more forest-dependent. Some inhabitants of the area have migrated, and others turned to tree-felling without a licence. On the road to Mopani from Baripada one can see many transporters of forest produce.

Women and men collect the following forest produce: firewood, mushrooms, tubers, honey, resin, *sal* and *siali* leaves, fruits, berries, *sal, mahua* and *kusum* seeds, *mahua* flowers (to make liquor) and medicinal plants. *Kunis* or *kobirajes* may tell people which medicinal plants to collect. Some medicinal plants, such as *myrabolan* (used in *adivasi* and ayurvedic medicines), the *junglewala* collect also for sale. The *adivasis* dry, grind and powder *amla, bahada* and *harida* fruits, and use them for jaundice, indigestion and stomach problems. *Amla*, called *dhatri* (caretaker) in Santali, is also used for a cough and dry throat, and *harida* for ringworm, chronic wounds, skin diseases, and as a protection: it is worn in a *tabi* (talisman) to prevent misfortunes when moving outside the village. During the rainy season many *junglewala* fall ill with fever, cold, body pain and malaria, while the winter is the season of flu, cough, body pain and skin diseases. During the summer headaches, fever and stomach problems are common, especially where people use river-water as drinking water. A line of a folksong says, 'Riverwater is low, diarrhoea is here'.

When the Mopanians talk about children or medicines, they refer often to the *anganwadi* worker, who has stayed there for 11 years. Compared to Burupal, more children go regularly to the *anganwadi* centre to eat *khiri* made from semolina or maize power (100 grams per plate), but fewer children go regularly to school in Mopani. Teachers remain absent from the school particularly during *pujas* and the rainy season. Many children herd the cattle, collect firewood and other forest produce during the day.

Mopani is a compact village. Burupal has three hamlets and the houses are more scattered. In both villages, the spatial organisation of the households is compact around a courtyard, and houses are surrounded by brushwood fences which separate different courtyards. Villagers themselves have built most houses. Most *adivasis* live in houses of mud walls with *sal* or bamboo poles and thatched roofs. In mud-houses cow-dung is used as a coating, and renewed frequently. Villagers see it as cool, comfortable and clean. In Mopani houses are mud-houses, except for *anganwadi* centre, school and two government-built houses made of cement with a tile roof under the *Indira Awaas Yojona*, which is a central government program begun in 1985 to house rural people below the poverty line. People consider brick or cement houses with tiled roofs to be of higher status than mud houses with thatched roofs. Many general caste households have brick houses or mud houses with tiled roofs. Many houses have three compartments: a sleeping room, a storage (for paddy) and a kitchen, which may be either inside the house, on the veranda, or in a separate cooking hut. Several houses have a shelter for animals next to a house or an open-walled extension of the house. Wooden or split-bamboo shutters

and doors are used. Houses usually have no windows.[83] Houses are kept tidy and some women paint the outside walls white with a cloth and make black, red and yellow stripes. White is made from paddy field soil, yellow and red from forest soil, and black from ashes of hay. They are powdered and put into hot water. Painting is done once a year before the *Kali-puja*.[84]

In both villages most households have access to a *sunyagadi* (zero-cart; bicycle, non-literal translation), which tends to be the property of men. It is not considered proper for rural women to cycle themselves; men cycle and women sit at the back, legs on one side of the cycle. Men usually wear *lungi,* but when they go to the local market or town, they often wear Western-style shirts and trousers. Clothing is important in manifesting one's education and status. Younger women wear *saris* with a blouse or a top, but older women often without. A widow wears a white *sari*, no jewellery (bangles) given to her in marriage and no *sindhur* (vermillion) in her hair. Women wear bangles, and I was often asked why I was not wearing bangles, which is regarded as a sign of being a widow. Woman's jewellery is not merely indicative of the love of the giver, but symbolises what is regarded good in wifehood, such as taking care of the husband's welfare and performing material and spiritual household duties. When the husband dies, and the responsibility for the household changes hands, the widow does not wear jewellery as a sign of her renunciation of worldly concerns (Tagore 1987: 125). Girls wear dresses, and boys shirts and shorts. Most households have few consumer goods: they have *balti* (a bucket), *dhalu, gadu, gara, handi, kokora* (waterpots of different sizes, some broad-mouthed, others narrow-necked), mostly earthenware and aluminium pots, a few utensils of stainless steel and brass, a silver *nota* (small waterpot used to give water to guests and in worshipping), *bela* (a big cup), plates, glasses, spoons, knives, a kerosene lamp with a glass chimney, or a simpler brass lamp with a cotton thread. Some men have wristwatches. A few households have radios and/or tape recorders, and a household in Burupal has a television.[85] Most *junglewala* have never been to the cinema, but a few have, and a few times they have watched videos in the village. The urban influence of Baripada town is mostly felt in Burupal, being the closest to the town.

When Oriya Hindus, or *Dikus*, as the *adivasis* call them, such as forest officials, come to the villages, villagers give them something to sit on, usually a *cot* (a bed made from wooden frames and *sabai* grass rope net), a *palanka* (a bed made from wooden planks), or if they have a chair, *Dikus* are given chairs. Villagers may offer tea or food to a forester. Since 1987 the Burupalians have protected a social forestry plantation and a plot of regenerating forest. Burupal has a Forest Protection Committee.

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[83] According to Culshaw (1949: 99), the fear of the witch's 'evil eye' prevents the Santal from building windows. A Santal of Burupal said that they had a window, but a thief used it, and they sealed it. Some houses have a small opening in the wall, high up, so that no one standing outside will be able to look inside.

[84] The *Kali-puja* (1.11.1997) is celebrated for the 'first mother'. The womb of the mother is dark, so the image of *Kali* is black. *Kali*'s necklace of human heads means that since time immemorial, she has had children, and refers to time: ages and rulers come and go. Shiva is *Kali*'s husband and lies on her feet. People decorate houses and cattle, and dance with the cattle in the field.

[85] Three examples of household assets. In Burupal one household had a *kusum* plough, a cycle, a radio, three cots, an aluminium cup, two aluminium *bela*, and a *nota*. Another household had a neem plough, a bullock cart, a pump, a wristwatch, a cycle, a radio and Rs. 3,000 savings in the post. In 1996 they took a 50% subsidised loan (of Rs. 35,000) from the Block Development Office against the land guarantee to bore earth to lift water and buy a water pump. In Mopani one household had two cots, four aluminium *bela*, two aluminium glasses, a brass glass, three brass plates, a steel plate, and an aluminium pot.

Although a ranger initiated it, recently members of the FPC have had more contacts with the BJFPC than the Forest Department. For a long time territorial foresters (from the Territorial Wing of the Forest Department) have not attended a meeting in Burupal. Some meetings have been fixed, but the foresters have not turned up due to 'bad weather'. This is embarrassing to the organisers and villagers feel devalued. A social forester (from the Social Forestry Wing) has kept in touch, and helped them with a court case over tree-felling in the social forestry plantation that involved most households of the village.

The situation is very different in Mopani, where territorial foresters come every day, usually on their way to other places. Most of these officials are forest guards and foresters, 'the legs of the Forest Department', who walk or cycle in their *khaki* uniforms. Higher officials, armed men in jeeps, villagers mostly see passing the road, which is 200 metres from Mopani. These vehicles drive fast and expect others to give way. Many *junglewala* watch them with fearful eyes and hope that they do not stop to investigate, but just leave a cloud of dust behind them. The singing of birds is unheard by motorists, who may be on patrolling duty to protect the forest, on their way to a 'prevent the *akhand sikar*' (group hunting) meeting, or on their way to fell trees and kill wild animals.

Burupal

Burupal is a village in Hatikote *Gram Panchayat*, Hatikote block. Burupal has three hamlets: *Tala*, Upper and *Hudi* (hill) *sahis* (hamlets). There was a flood in 1973, and many people living by the river or in *Tala* hamlet (oldest hamlet) lost everything, and moved to Upper hamlet. The hamlets are less than one kilometre from each other. The caste households live only in Upper and *Tala* hamlet, the *dalits* in *Hudi* hamlet, and the Santal live in all hamlets. There is a public open well and a private well (of four Sadgup brothers; Rs. 8,000 in 1997) in *Tala* hamlet, a pump-well in Upper hamlet and a nonworking pump-well in *Hudi* hamlet. In *Hudi* hamlet people drink Burhabalaga river-water, which gets less and dirtier during the summer season, and causes more stomach problems. In *Hudi* hamlet many houses are on encroached land. The school and *anganwadi* centre are in Upper hamlet, and some parents do not dare to send their small children by themselves. The *anganwadi* worker is a middle-aged, married Sadgup woman, who speaks Oriya, and mostly general caste children go to the *anganwadi* centre. A little Santal girl said that she does not go because there is no good food. Burupal has three committees: village, school (to motivate parents to send children to school) and forest committees. Some persons were active in all, others in none; others were active in some, others had been active for some time, but not in 1997.

In Burupal there are old emigrants from Midnapur District (West Bengal), who were cultivators and money-lenders. The Sadgup families have come from a neighbouring village, West Bengal and Bihar. The grandfathers of Ghosh and Nayak men came from West Bengal, and the grandfather of Kalia men from Bihar. Most Santal came from Baunsbana, West Bengal, but the grandfather of Marandi men came from Bihar. Some men's grandfathers lived in nearby villages before moving into Burupal.

The table below represents the age distribution of Burupal. Under-18- year-olds are 46 per cent of the population, 70 boys and 70 girls, totalling 140 persons. The adult population is 54 per cent, 83 men and 79 women, totalling 162 persons.

Age (years)	Male	Female	Total	Percentage
0-5	12	25	37	12
6-18	58	45	103	34
19-30	26	37	63	21
31-50	43	30	73	24
51-	14	12	26	9
Total	**153**	**149**	**302**	**100%**

Table 2. The age distribution of Burupal

Ghar is the term for household, both for the dwelling and the group of people who live in it. The concept of household is guided by agnatic kinship principles and behaviour, economic principles and organisation. The social organisation in most Mayurbhanjian communities is patrilineal. Although any marriage has a range of payments, among the caste-Hindus, there is more emphasis on dowry (*pana* in rural Oriya), which a bride's family pays to the bridegroom's family, and among the *adivasis*, there is more emphasis on bridewealth, which a bridegroom's family pays to a bride's family (exogamous bride-price marriages). By classifying households into types, we are freezing a moment of the household's lifespan, although every family moves through a development cycle (Carter 1984). Within a household, the hierarchy is based on gender, generation and age (Parry 1979). The household is the basic economic unit in the village.[86]

All communities of the case-study villages practise exogamy: women marry out. Men do not usually change residence or group membership at marriage, whereas women do from the natal to the conjugal place. Therefore, there are differences in men's and women's experiences of kinship and place. Wives (total 43) usually come from nearby villages: four wives came from the village itself, 18 wives within 10 kilometres' distance, six wives from 11-20 kilometres, 11 wives from 21-30 kilometres, and four wives from more than 30 kilometres' distance (one from Bihar, two from West Bengal). Although some daughters have been married further away from the village than where their mothers came from, most daughters are married to similar distances as where their mothers came from, and sometimes to the very same villages. For example, a Baitha daughter was married when she was six years old, and when she was 12, she went to live with her husband in Bihar, in a village where her mother had come from. Only three husbands had moved to live with their wives' families after marriage. For example, a 20-year-old Hansda man, whose wife had four brothers who were all under 18 years, moved to Burupal when his father-in-law died. The joint household ideal is changing, and the relative number of nuclear households is rising also in rural areas. 27 per cent (17) are joint households, and 73 per cent (47) are nuclear households. 61 per cent (39) of the households have three

[86] Grey and Mearns (1989: 14, 22) discuss the duties of the householder in Hinduism as well as on the household in South Asia as a confluence of three forms of social relations: kinship, production, and consumption. Carter (1984: 45) points out that the domestic is composed of two dimensions: the 'familial' referring to the origin of the links between its members, such as birth, adoption, marriage, and the 'household' referring to shared tasks of production and/or consumption.

to five members; 27 per cent (17) six to eight members; 11 per cent (7) one to two members; and 2 per cent (1) have nine to 11 members. Very few people live alone.

Junglewala's forest practices show gendered patterns of a division of labour. There are differences between and among *adivasi, dalit* and caste communities and households within the same community depending on the family situation, but generally the following holds. Although there is a division of labour along gender and age lines, *adivasi* men and women may do many works jointly together, such as planting of seedlings, cleaning of weeds, harvesting of crops, hitting paddy to get the corn from the hay, firewood collection, herding and rope preparing. The following are men's work: construction of paddy-land soil fence, ploughing, building work, house construction, roof-thatching, preparing agricultural implements, tree-felling, cutting firewood, and selling and buying at *haats*. Young men tend to be interested to sell and buy at *haats* and work as *mulia*. *Adivasi* men collect forest produce which need climbing (honey, *kaipoko*). Men shake the trees and women and children gather fruits and nuts. The following are considered as women's work: fetching water, cooking, cleaning of paddy with *kula* (a strainer made from bamboo), preparing mat from *khejuri* and palm leaves, preparing brooms from the straw of *sirom*, washing clothes and washing dishes, or making 'the big and little axes shine', as the Santal say (Archer 1974: 39). Many young women work as *muliani*, and daughters-in-law cook most of the meals. Old women and men take care of children, and watch the house when adults go to work outside. Old people may not be very fit, but they can often work.

Contrary to Shiva's (1989) analysis, gathering is not the exclusive province of women, although due to patrilineal land inheritance, *adivasi* women are more forest-dependent than *adivasi* men. According to Fernandes and Menon's research (1987: 84), women do 60 per cent of the total household gathering and roughly 70 per cent is devoted to firewood collection, and men do the rest. Contrary to Shiva's (1992: 211; 1989: 60) arguments, men are the main decision makers in agricultural and silvicultural matters. Men are the primary 'selectors and custodians of seed'; men have contact with agricultural extension agents, seed sellers and crop buyers, and decide what crops to plant, how much to plant, when and where to plant and what inputs to use. Although Shiva (1989: 60) claims that 'it is primarily women who use and manage the produce of forests', others (Corbridge and Jewitt 1997: 2158-59; Kelkar and Nathan 1991: 115-6) disagree. Their and my field evidence shows that it is men, not women who are the primary decision-makers and in a better position to use their forest knowledge. Although Kelkar and Nathan (1991: 110) claim that gathering income is 'that of the person who performs the work' and the same person does gathering and marketing, in the case-study villages, it is often the women who collect and men who transport the produce to a *haat*, and therefore the income of the gathered produce may be divided. Men do most of the money transactions and shopping. Several women said, 'husband knows about the prices'. Nevertheless, broad categories like gender can often conceal more than they reveal, and it is necessary to investigate individual people acting in specific places.

Women are not an undifferentiated category: there are *adivasi*, *dalit* and caste women, rural, urban, and educated women. Unlike caste women, many *adivasi* women spend several hours a day in

the forest in a group of women. *Adivasi* women have visited at least all households of their hamlet. Many caste women see their father's, husband's and husband's brothers' houses, but do not visit other houses in the village. In Burupal, caste women may visit the well, the river and the Shiva temple.

> We've no time. We meet at the well (a 50-year-old Sadgup woman).

She goes 10-12 times daily to the well and brings a *kokora* and a *balti* full of water.

> We never visit the forest. How can I tell you about it? (a 60-year-old Sadgup woman)

> We only stay here and they [men] give us according to their wishes (a 22-year-old mother of a six-month-old baby girl).

A 38-year-old Sadgup widow and a mother of four children compared two villages, her natal village and Burupal and said,

> This is a forest area, no one bothers to come here. [In her natal village] people were literate and there were more roads and other facilities.

She felt that the government neglects people living in forest areas. Although some argue that in some caste communities

> Women cannot even go to the forest, forget about protection (Monika Singh, JFM workshop),

women may participate in forest protection indirectly.

> We've much work in the house, and don't have time to go to the forest (a 55-year-old Mohanta woman, Budhikhamari).

Her involvement in forest protection is to motivate children to protect the forest, and economise on fuelwood use. Nevertheless, due to patrilineal patterns of ownership and inheritance, women are not allowed to own land, and have little authority in its care. There is no gender equality in law, much less in practice (Agarwal 1994; McGean *et al.* 1996: 244).

Different kinds of villagers live in Burupal. There is a young Sadgup widow, who has been a follower of the Gaudia cult for five years. For her, god is everything, and much of her time is devoted to worshipping. She has a home temple, a *tulosi* in the inner courtyard, and wears a *japamali* (*tulosi* wood) necklace. She lives with her adopted son and mother, and they share a house with her four brothers and their families. There is another Sadgup family of four brothers: two are farmers, one is a cattle trader, and one works in a post office. Somehow an outsider is a Sadgup pharmacist, who had been away from the village for 25 years. He is the only one in the village who has a motorcycle and a television, and reads professional, medical magazines. Eight caste households of Burupal got electricity in 1980. Despite differences between ethnic communities, there is interaction between them. For instance, the Santal *dehuris*' wife uses the Sadgup neighbours' private well for free. The Santal *dehuri* considers himself to be the chief of the whole village, not only of the Santal community. He said 'Delhi has the Prime Minister, and here I'm the chief of this village'.

Those children who go to school often assist their family before and after school. Their works include herding, collecting leaves, mushrooms, sticks, firewood, and looking after small children. Those who do not go to the *anganwadi* centre or school, mostly *adivasi* children, do the above works most of the day.

> If I send, who'll see our cattle? (a 35-year-old Santal father)
> I'm sick. My son looks after me (a 60-year-old Santal father)

The youngest herder I saw was four years old. Some parents said that they do not teach anything to their children at home, and hence downplay their significance in teaching sociocultural behaviour, household and rural skills (cultivation, forest practices) and overestimate the significance of formal education. Women teach girls to cook and clean, and men teach boys to cultivate and shop. The blacksmith of Burupal said that when his son is 15 years old, he will start teaching him to become a blacksmith. He did not say anything about teaching their daughter, although she is likely to marry a blacksmith and help him with his work, as her mother is doing.

Burupal has a school since 1950, and most households have someone who is literate. In seven households no person was literate. Some have gone to school for a couple of years, and know how to write their names. Most young boys and men are literate. Some send a son, not daughters, because

> We've no money. We want to educate one (a Santal father).

Parents said several reasons for sending children to school: to learn to read, write and count, to get knowledge, 'All become educated', 'No thumb impression' (a government slogan), 'We aren't educated, children should be', to prepare them for the future', and 'We've a school in the village'. Some caste parents complained that there is no proper education at school, and send children to tuition before or after school.[87] No one failed in their matriculation examination in Burupal in 1996. A 44-year-old Sadgup man said, all government servants

> are thieves. No one is good. [... There is no education with women-teachers] they just collect lice from the hair.

His wife disagreed with his views. Parents had different views concerning the length of the education:

> Some education so that they can count (a 70-year-old Santal man, Burupal).
> How much the children want to study, they do as they want (a 33-year-old Sadgup man, Burupal).

The closest college (opened in 1997) was seven kilometres from the village, and four students from Burupal studied there, together with 40 others, for three to four hours daily. The standards of these small colleges vary; some have incompetent teachers and cheat people.

Most Burupalians said that their main occupation is cultivation, but due to small land-holding sizes (less than two hectares) and a lack of irrigation, they cannot depend on agriculture only. Few have long-term employment and are regular wage-earners: three men work in post offices (government

[87] Teachers complained about the shortage of teachers. Although the number of pupils has almost doubled in seven years (from 94 in 1990 to 170 in 1997), the number of teachers has remained the same (five).

service), a pharmacist (since 1992), a security man, an *anganwadi* worker, and a woman (part-time) cook of the school. A blacksmith lives in the village. Eight households are farmers. A farmer family has a grocery shop in the village; the elder brother is the shopkeeper, and the younger brother cultivates their land. Most households combine several activities to provide livelihood and income, such as daily labour, NTFP collection, *sabai* rope-making, basket-making, selling forest produce and vegetables in *haats*, sharecropping, animal husbandry, cattle trading, soil extraction, earth digging, road building, building labour, and brick construction. Most caste women are housewives and busy working within courtyards. Most households have more than one occupation: 10 households have one occupation, 44 households have two, six households have three, and four households have four occupations. Few old Burupalians receive a monthly pension of Rs. 100. Most Burupalians want to work at home, but few are forced to work elsewhere from January to June. Although there are several brick kilns nearby, some go to make bricks to Balasore (73 kilometres from Baripada), and stay there for six months, because food is cheaper there. Brickmakers often work in a team of three persons and get Rs. 1,000 per month.[88] A 30-year-old Santal man said, 'No holiday if get work. If no work, it's our holiday'.

The household expenditure varied a lot between households in Burupal, but all households had more expenditures during *pujas*. The average weekly household food expenditure was Rs. 60 (ranging from Rs. 4 to 200). Many complained about high prices: '100 rupees fills only a small bag'. The daily household rice consumption varied from half a kilogram to 5 kilograms. The common items in *haats* are: rice, vegetables, salt, chicken, oils (mustard, *kusum*, kerosene), seeds (mustard, *karanjia, kusum*), soap, soda, *dukuta* (tobacco), *handia* and clothes. Some households shop mostly in the village grocery shop, where prices are little higher than in *haats* or Baripada. For example, rice in Burupal and Mopani cost Rs. 8 per kilogram, and Rs. 7 in nearby *haats*. The average household clothing expenditure was Rs. 892 per year (ranging from Rs. 100 to 3,000). Some households buy a piece of clothing per household member yearly, others three. A loin cloth cost Rs. 60, a *sari* Rs. 100, and children's clothes Rs. 50 in 1997. For two widow-households their relatives bought clothes. Most households' education expenditure is minimal.[89] The average yearly household medicinal expenditure was Rs. 438 (ranging from Rs. 0 to 1,200).

Some Burupalians said that there are no self-help groups in the village ('We're poor men, how do we help others?'), and others that there are informal labour exchange groups within a community or the village regarding food, sickness, harvesting and housebuilding. Most Burupalians said they belong to the village more than their hamlet ('We're first village men', '*Pura* Burupal' (*pura* = all, whole), a few belong more to their hamlet (caste women), and some belong to both. In the

[88] Brick kilns use mostly coal (some wood and agro-wastes) as fuel and a short metallic exhaust. They mix sand and soil in a rectangular frame and burn it in a closed mud kiln. This causes air and soil pollution. Excessive extraction of soil for making bricks creates pits that cause water logging and soil erosion. Owners of the brick kilns resent pollution control measures, since modifications, such as 30 metre high chimneys with scrubbers, involve costs, and they are small-scale units (*Down to Earth*, 31 December 1997).

[89] The average household education expenditure was Rs. 1,447, and it conceals more than it reveals. Some households had no education expenditure, and one household had Rs. 12,000 per year.

village the Burupalians valued cultivation, paddy, *bhat* (cooked rice), *handia*, road, well, school, people, co-operation of villagers, unity, peace, cattle, drumming place, house, forest protection, and the following trees: neem, *gambhari*, jackfruit and mango.

The Burupalians' conceptions regarding outside space and their social mobility vary. Most women visit Baripada to see a doctor, or to attend a festival once a year. For men, work and shopping are the most common reasons for going out of the village. If men do not have enough employment in nearby villages, they commute to Baripada for daily labour. Some had worked in Balasore and Cuttack, but did not like it. A Santal guardian had family members living in Calcutta and had visited them. Older people tend to appreciate self-sufficiency:

> Everything I need in life is in this village (a young Santal man).
> We've no problem, god is with us (an old Sadgup woman).

Some parents wish that their children would be able to live as they are living. Others are eager to get hold of consumer items and are more influenced by urban life, and values of education and personal assets.

> All dreams will not be achieved (a 55-year-old Santal man).
> Sons, when they grow up, then achievement (a 26-year-old Santal father).

This section has shown that even in a small village there is diversity in experiences and conceptions.

Agriculture and animal husbandry: *dhan* (paddy) indicates *dhana* (wealth)

For many villagers, farming and forests are closely related and by concentrating on the forest, I create an artificial distinction and impose dualism on others' experiences.[90] About 80 per cent of the population are dependent on agriculture in Orissa. Agriculture being seasonal in character, many villagers engage themselves in farm work and non-farm work at different times of the year. Cultivation is subsistence-oriented. Paddy is the primary crop, and vegetables, mustard and groundnut are the main subsidiary crops. People refer to crops as *rabi* and *kharif* or *asu*. *Rabi*-crops (blackgram, horsegram, turmeric, rafi and potato) are sown in September-October and grow over the winter months to be harvested in May-June. *Kharif*-crops (paddy) are dependent on the monsoon for growth and are harvested in September-November. *Nua khia* (new eating), an offering of the first paddy to spirits, is celebrated after the harvest as a thanksgiving.

Land and livestock ownership are reverse indicators of the forest dependency. One household has nine acres and all others have less land. Nine households have less than nine acres and more than three acres. Forty households have three acres or less, and eight households have no land. Most of the owned land is inherited; seven households had bought some of their land, and four households all of their land, and few households had encroached farming and homestead land.

> Who has a field near the forest, can encroach (a 40-year-old Sadgup man).

[90] Apart from presenting forest and agricultural calendars in appendices 2 and 3, it is beyond the scope of this dissertation to explore how agriculture and forestry are experienced as related.

The Burupalians said that a minimum bribe to make an encroached land into one's own is Rs. 100. In some families the land is not divided, although the household is divided, and all brothers get their equal share of the crop. (Previously the eldest son got more land, but not now.) Some households have kitchengardens of banana, coconut, eggplant, pumpkin and spinach. Few have *pal* land on the riverbank to grow vegetables. Three households have an orchard. The Santal own most of the land in Burupal, and there are legal restrictions to buy the land of the *adivasis*. Although a researcher of the Tribal and *Harijan* Research-cum-training Institute said that these are poorly followed, several caste and *adivasi* Burupalians complained

> Here is no scope to have more good land.

Most households are not self-sufficient with paddy.

> Our paddy lasts half a year, and the rest of the year we buy it (several guardians).

Dhan means paddy, and *dhana* wealth: the more paddy a household has, the wealthier it is considered to be.

The Burupalians cultivate by themselves, or with the help of *mulia(ni)*. Three households do not work in their fields at all, and *mulia(ni)* do all their agricultural work. Some use only *muliani* (female, Rs. 20), because the cost of *mulia* (male, Rs. 25) is more. Most *mulia* prefer 'paddy-pay', because it is immediate, and there is no problem in buying rice.

> If we take money, a shop may not have rice (a 35-year-old Santal man).

Seven kilograms of paddy is equal to three kilograms of rice. Some households involved in *sabai* rope-making take *sabai* grass (8 kilograms), which was worth Rs. 25 in 1997.

Most of the land is rainfed. Lift Irrigation Points (L.I. Point) enable the cultivators to have a crop even when there is not enough rain. It is usually a group decision whether the L.I. Point is used or not, and the more in a group, the less expensive it is to each household. Some fields are too far from the L.I. Points to be reached. The monsoon time is the 'king period of the paddy'. Most Burupalians have recently started *bilati* (foreign; *Bilat* = London), hybrid paddy or high-yielding variety cultivation, where *desi* (local) crops do not survive. *Desi* paddy is cultivated on *asu* (low land), and hybrid on *dhipa* (upland). Most households cultivate *desi* paddy, and have been self-sufficient with the seeds by keeping them for the following year (unless an emergency). Villagers buy hybrid paddy seeds from the Block Development Office yearly. The Burupalians prefer *desi* for taste, and hybrid for higher yield and shorter cooking time.

> *Desi* paddy tastes better, but hybrid rice has better production (a 55-year-old Santal man).
> *Desi* has better taste, hybrid is cooked quickly (a 30-year-old Sadgup woman).

Desi seeds yield more fodder, require less pesticides and fertilisers and taste better, but are commercially less viable, as they take longer to grow, are not as resilient, require more water, are less refined, yield less grain than hybrid seeds, and are less in demand in the market (Chatterji 1996: 93).[91]

Animal husbandry is a significant supplement to some households' agricultural production. (The yearly income from selling domestic animals is Rs. 0-10,000.) The most common animals are cattle, goats and fowl. Chickens and hens are kept for their eggs, and goats for meat to be sold. Some chickens are for cock-fights and produce no eggs. Cattle are used in ploughing and as draught animals. Caste households may also keep cows for their milk (which they yield one litre a day), but the *adivasis* treat cow's milk as mother's milk that calves need. In Burupal most households (45) had some animals, and altogether there were 60 oxen, 32 cows, 14 calves, 104 goats, 103 (+ 12 babies) chickens, 43 (+ five babies) hens, one pig, two dogs and one cat. Open grazing is the most common way to feed domestic animals. Some households stallfeed (husk, hay, rice-water, water) and collect fodder (branches, grass) daily during the monsoon. During the summer there is a shortage of fodder. Most households herd their animals near the river, and on paddy fields after harvesting. A part of the previous grazing land is currently a social forestry plantation. Some households exchange or sell husk for cowdung, which they use as a fertiliser. The most common diseases of animals are diarrhoea, mouth wound, tongue and leg problems.

> We may not get food, but should arrange food for animals (a 60-year-old Santal man).

After a good harvest a household may invest in domestic animals, and when in financial difficulties domestic animals are sold. A widow said that they used to have animals, but 'who's maintaining them now?' Usually household members herd their animals. A couple of households had a herder for a year, who ate and slept in the house, and got clothing and Rs. 150-3,000 per year in 1997. Often a herder is responsible for animals of several households, and they pay him, for example, Rs. 150 per cow per annum. The amount of cattle is a status symbol; to be able to many cattle is a sign of a 'big man'.

Forest practices in Burupal

Burupal makes a many-sided case-study of forest practices, since it is a heterogeneous village, has two *jhahiras*, a social forestry plantation, a protected forest patch, an FPC, and has links with the BJFPC and the MASS.

Forest practices of different ethnic communities and their division of labour differ in relation to the collection, processing and marketing of forest produce. General caste men collect firewood and fodder only for household, and some collect firewood from trees growing on their land. They rarely collect other forest produce saying that only the *adivasis* collect forest produce, or the poor collect the leaves. A forest-dependent person is considered to be poor, to do it out of necessity. Most *adivasis* are

[91] Biotechnology can be used as an instrument to dispossess the farmer of seed, a means of production. The elimination of home-grown seeds increases farmers' dependence on biotech-industries, such as chemical fertilisers (nitrogen, phosphate, potassium) and pesticides, which are harmful to the soil. Biotechnology development in agriculture and forestry (the promotion of plantation where regeneration is possible) can lead to biodiversity erosion, poverty and losing knowledge.

more dependent on NTFP and collect a variety of forest produce, such as fruits, mushrooms, tubers, medicinal plants and *sal* leaves, for household and/or for sale. Leaf-picking is an *adivasi*-activity and women, aged and young, are the most involved group. Men are involved, if they have no other employment. Many Santals live for six months on paddy, and the other six months on *sal* leaves. Although many *adivasis* spend most days collecting *sal* leaves, many said cultivators as their occupation. Cultivators have a higher status than gatherers. Cultivation indicates land ownership – an indicator of wealth. The Baitha households are bamboo workers making mainly baskets and stainers. The household economy of the *adivasis* and *dalits* is more forest-based that that of the general castes, who tend to have other sources of livelihood, such as outside employment, or selling agricultural and animal produce. There is a cultural hindrance for the castes to depend on NTFP to the extent the *adivasis* and *dalits* do. The 'low' castes are associated with polluting customs (Parry 1979: 87).

According to a historical narrative of an 86-year-old Sadgup man, whose father came from Bihar when there were 10 *adivasi* households surrounded by the forest. His father bought paddy-land prepared by the Santal (Rs. 15 per acre). When the forest was dense, there was abundant rain and good soil condition, and the villagers had more food from their land before. The land was fertile and two acres was sufficient for 10 persons, whereas now 10-20 acres are needed. Many had more land before, since the land has been divided by sons, and due to population growth, there have been more brothers to get their share than before. The Burupalians had more cattle, when there was more fodder in the forest. The Burupalians cultivated only paddy (no vegetables), because of many deers. Manchabandha used to be a dense forest. The Maharajas used it as a hunting ground and to catch elephants. After the independence wild animals were less:

> When the Maharaja left, the wildlife went away (an 86-year-old Sadgup man, Burupal).

The villagers used to collect firewood after paying permits, but currently there are no such permits, and people do it 'illegally'. During the Maharaja rule protected forests were already vanishing, and when it was gone, people started to cut reserved forests, and with the contractors started the large-scale felling. During Nehru's time (1949-64) some forest patches were there. There was rampant felling from 1969 to 1973, and after the flood of 1973 also bushes were felled. From 1973 to 1981 people were very forest-dependent, and some worked for contractors and felled trees. He said that the years from 1973 to 1982 were process years, and in 1982 the concrete protection started.[92] All men took part in *thengapalli* before 1992, and there was no remuneration for the watchers. There was 60 acres plain land vacant and on 10 acres the Social Forestry Wing of the Forest Department planted *acacia*, eucalpotas, *jacunda,* bamboo, *sisoo* and teak.[93] The old man said that when the 'tree-field' was

[92] A retired forester told about two 'massacres' of the forest. First, when the independence movement started, the British felled trees in coppice system in the 1930s. Second, there was a major drought and famine in 1947-49, and people felled many trees in the 1950s. Villagers started to protect forests in the 1980s.

[93] Another Sadgup man said that the social foresters told only to plant *acacia* and eucalpotas, but some Burupalians wanted teak. The foresters said they only plant on barren land and teak does not grow there. Villagers said 'Who said it is not fertile? Some years ago it was fertile, trees grew there'. (According to the vegetation monitoring, the majority of the species were *acacia,* eucalpotas and *jacunda* in 1997.)

planted, the Territorial Wing also came to Burupal: 'there was a competition for the area'. In 1992, the government gave the impression that the forest is yours and people were directly involved. He said,

> All the committees started 1992, not before. [...] We've no regular FPC meetings, meetings are held according to need (an 86-year-old Sadgup man, Burupal).

Based on several historical narratives I conclude that agriculture used to be more remunerative as the land-human ratio was higher. Population increase and simultaneous decrease in land productivity, and the flood of 1973 have contributed to increased forest dependency. The old *junglewala* remember the dense forest surrounding the village and see that forest protection aims to regenerate the forest rather than create a new awareness among people as the foresters and NGOs claim.

In Burupal forest protection started because both the villagers and the ranger were interested. The Burupalians thought that because there was no forest, there was no rain, poor crops, and a lack of fodder and fuelwood, and at the same time the ranger helped to organise meetings and brought a book to encourage forest protection. Burupal has a forest patch of 50 hectares and an active FPC according to the book-keeping of the ranger in January 1998. This protected natural forest patch is four kilometres from the village. Other forest patches are closer to the village, which the *junglewala* use chiefly to collect firewood and leaves. This is a common scenario in other villages as well: a patch of forest may be protected, while from another patch forest produce are collected. A village forest, with open access for villagers, may be in a good condition, and the neighbouring reserved forest in bad condition. Often the foresters blame the *junglewala* for doing this, but the same method is used in Western scientific forest management as well. The administrative distinctions between forest areas (village, protected and reserved forests, sanctuaries), and forests classified under different working circles (coppice, plantation, rehabilitation) aim to control forest use and designate certain areas for forest use, and others for protection.

The social forestry plantation is by the river one kilometre from *Hudi* hamlet, whose residents worked there. Some Burupalians saw the protection of the plantation and natural forest as the same kind of activities, others said that the plantation is easier to protect, since it is closer to the village. A retired forester claimed that social forests are better protected, because social forestry started first in 1984, and natural forest protection in 1988. But there is one big drawback:

> Once trees are cut, everything is cut (a retired forester).

Some Burupalians said there is no difference in their protection, but the difference is that plantations people have to plant, and natural forests people merely protect. The village leader of the plantation works was a young Santal man, who acted as the ward member in 1997. Officially his wife is the ward member.[94] The social forester has kept in contact with the villagers, and some called him *mousa*

[94] Almost all Burupalians said 'Mongol', the husband's name, as the ward member, although in theory the wife is the ward member. Mongol said in front of his wife that his wife cannot be a ward member, because she does not understand many things. A Burupalian said 'We've elected her, but we don't know her name. [...] Husband is influential cultivator and people

(father's brother). The use of kinship terminology means that he is liked; otherwise foresters are called *babus* or *sahibs*, which indicate a more formal and hierarchical relationship. A Santal man said 'He's like you, and thinks that this is your village'. In 1997 there was tree-felling in the plantation, and the forester was with the villagers in the court trying to solve it.[95]

Most Burupalians like the plantation, 'the government planted it for us'. The ground of the plantation is clean with hardly any undergrowth, and leaves are collected daily and used as leaf-fuel. A young man made a connection with illegal felling and the plantation,

> When the forest is cut down by illegal fellers, we've to plant [eucal]potas (a 65-year-old Sadgup man).

Some were critical of the plantations. A middle-aged Sadgup man said that the eucalpotas forest is a bad forest, since it consumes more water. During the winter the leaves in *sal* forests are watery, but there is no water on the leaves of eucalpotas, he said. Villagers' shares of the natural forest and the plantation are different; 50 per cent of the final harvest (relative and contested concept) of the former, and 100 per cent of the latter remains in the village.

For the members of the FPC, the *kathas* are important. It almost seems that without a *katha* there is no FPC: an FPC = to have a book. There are two FPC books in Burupal kept by two persons, both in their thirties. The first notebook deals with the beginning of the forest protection (9 January 1987 – 20 January 1989), and documents 20 meetings. The second notebook deals with the time from 6 June 1994 to 1 November 1997 and documents 15 meetings so far. Laxman, a Sadgup man, has the older book, and Gudra, a Santal man, has the newer one. The first notebook is titled as Burupal Mushapani Village Forest Protection Committee Register, and it is signed by K.C. Mishra, Pithabata ranger, on 9 January 1987. The foresters invited people from Burupal and Mushapani and in the presence of 25 male members, an FPC was organised. The *Yubak Sanghas* (youth associations) of Burupal and Mushapani organised the second meeting, and the ranger and two foresters attended it. The ranger said that if the trees are kept intact, villagers can maintain their livelihood for future generations too. The organisers were entrusted with forest protection. They decided that the Forest Department cannot cut the protected forest without the consent of the *Yubak Sangha*, which will take one quarter of the forest produce. In the third meeting, a World Environment Day was celebrated with the District Forest Official and directors of the Social Forestry (deputy director) and the Simlipal Forest Development Corporation attending. The ranger said that if they have any problems in forest

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voted for wife'. Increasing women's formal representation in *panchayat* bodies does not necessarily make a difference in practice. The politicians know this: 'Husbands of many women who are elected to panchayat bodies interfere in their wives' official work, thereby hindering empowerment of women in public affairs, said the chief minister, J.B. Patnaik (*The Asian Age*, 15 December 1997). A ward member is not a 'traditional' leader, he is a political leader of the village. Nevertheless, some Santals said that he is like *dakua* (messager; after *dehuri* the second important leader of the 'traditional' system), who calls people for village meetings, and tries to solve quarrels.

[95] A person cut some trees, and villagers and the social forester fined him Rs. 2,000, but he paid Rs. 701. According to the villagers, the reason the police did not compromise and the case was booked against the members of the FPC was that 'The police wants something' (bribe). The evidence is only recorded in English, and the forester shuffled between the village men outside the court and lawyers inside the court. The case was prolonged for three months: if any problem, the case continues, and if no problem, the case is withdrawn.

protection, the Forest Department will help immediately. They made an agreement that without the consent of the FPC, the Forest Department cannot take anything from the forest, and without the consent of the Forest Department the FPC will not spend their funds. In later meetings they discussed the change of the secretary, and in the last meeting nine members discussed a VSS.

The FPC had only male members, and women did not attend the meetings. During the first six meetings there were on average 23 members present (three Mohantas). Proportionally the Santal were fewer than the general castes. In the beginning, the book-keeping was clear and more members attended the meetings, but later the texts of the previous meetings were repeated and there were less than ten members present.

The second notebook documents meetings of the FPC called the Village Forest Protection Party, Sarat. This FPC is linked with a different neighbouring village than the first notebook. The FPC of Sarat is part of the BJFPC, and the first time its representative has signed a meeting of the Budhikhamari FPC was in December 1992. In the first meeting there were forty persons present (27 signatures, 13 thumbs, 20 Mohantas). There were on average seven thumb impressions (ranging from 0 to 17). Most members in both books are literate, at least signature-wise.

Common topics in both notebooks were the problems of protection (negligence of the protection duty, a fee of 10 rupees for the non-attendance of the jungle-duty) and distribution, the uses and advantages of the NTFP, and how to involve tree-fellers to other occupations to gain their livelihood. Most Burupalians knew about *thengapalli* and most households had taken part in it, even if not for a long time. Many Burupalians said,

> The trees are growing because of *thengapalli*.

The *junglewala* regard *thengapalli* as *jati datya* (community duty), and many said that it was a good system, because it made tree-fellers afraid to come to the forest. A middle-aged Sadgup man said

> Villagers have group knowledge how to protect forests. [Ten years ago] we were poor and invested our time and labour, and the Forest Department encouraged protection. Now the forest is big. They want to create a VSS and cut the forest. Also others come and impose leadership.

The Burupalians had different views why *thengapalli* was stopped: because of uneven participation, uneven distribution (some took more trees from the forest, others did not get any timber), or busy period in paddy cultivation. Some blamed other villagers for not co-operating in it, since there were cases when the *thenga* was moving but a watcher was not, and when a neighbour did not go, others were not interested neither. Some said that because of *thengapalli* people are conscious now, and *thengapalli* is not needed any more. Few said that after the trees grew, or after the creation of the mobile squad of the BJFPC, the villagers had less interest in *thengapalli*. Others said that recently only cluster organisers were involved in forest protection, and they do not involve the villagers. For some it was not clear why *thengapalli* stopped, and they wanted to continue it. Others said that it may start again, if there are more problems. After *thengapalli* was stopped, tree-felling increased. The FPC of

Burupal used to get Rs. 500-1,000 from the social forestry funds to pay the watchmen, but this was stopped in 1997. The villagers thought that this was due to insufficient funding, but they did not say anything about the Swedish International Development Agency that stopped funding the Social Forestry Project in Orissa. The Santal secretary of the FPC said that currently the method of forest protection is common watch, and he liked it. A 25-year-old Santal man said,

> I value the forest more than the village. We depend on the forest. It's more important than the village. [...] Now [after *thengapalli* was stopped] we've left the forest to the forest guard and forester. I don't like it.

In the 10th meeting (11 February 1996) with the presence of 24 members (14 Mohantas, 10 thumbs) they decided to become a member of the BJFPC. They accepted the BJFPC regulations, and use the BJFPC receipt book: their FPC receiving 70 per cent of the income. By joining the BJFPC the FPC of Burupal become formally linked with the MASS. The next meeting had only seven members of the FPC (six Mohantas and the Santal secretary) discussing *thengapalli* and issuing of timber in the presence of the mobile squad, which attended a meeting in Burupal for the first time. They decided to issue seven pairs of logs to construct a new house (Rs. 5/piece), and four pairs for an old house (Rs. 10/piece). The 12th meeting (18 August 1996) was a general body meeting (35 members present: 23 Mohantas, 17 thumbs). They laid out stricter rules:

> 1) No one is allowed to take straight and valuable trees for firewood collection. 2) Each household was issued ten bundles of decayed and dried wood, instead of five bundles [as decided in the third meeting]. 3) It is forbidden to cut trees over 10 inches diameter. 4) If people do not obey the above rules, they are fined. 5) Five eight-inch-pieces mean one bundle. [They defined the size of the bundle, but not the species.]

There have been changes in forest protection, distribution, rules and communities attending the meetings in Burupal. The responsibility of forest protection has shifted from the villagers to the BJFPC, the mobile squad and the cluster organisers of the MASS. The mobile squad is supposed to visit the area regularly and see that the rules are followed. Few villagers have attended training organised by the MASS. A Santal resident of Burupal became the cluster organiser of the Bhadusole cluster in September 1996. First the members of the FPC, and since 1996 the cluster organiser issues permits to cut trees 'for persons with good reasons'.

> We should individually make them aware and keep regular contact with them (the cluster organiser, Burupal).

A man involved in another NGO criticised the role of the cluster organiser:

> The cluster organiser is the *raja* of the village (a man involved in another NGO, Baripada).

Many Burupalians said that getting a permit has become easier, and opposed this

> When we use wood, we should sit and decide how much.

In Burupal when the FPC started, there were two to three Mohanta households present in the meetings. After becoming a member of the BJFPC, on average 15 Mohantas were present in the meetings of the FPC, although in Burupal itself there are three Mohanta households. The president of this FPC is a Mohanta man of Sarat, and many members attending the meetings are the Mohantas of Sarat. On average there were 28 members present (ranging from 6 to 41) and 15 of them Mohantas (ranging from 5 to 25). In the beginning the Mohantas were one among many communities, but recently they have become the most predominant community in the FPC and in the BJFPC.

The extent to which the Burupalians know and are interested in these activities varies. Whether a single FPC or the BJFPC, it is men, usually the *mukhia*, the guardians of the households, who attended the meetings. All men did not attend the meetings, and more men took part in *thengapalli* than attended the meetings. Apart from few women-headed households, women have not taken part in *thengapalli* and meetings. Relatively few men knew what went on in the meetings, and many women and children did not know there is an FPC in their village.

> There's an FPC in the *panchayat*, but not in this village (a 25-year-old Santal man).

This implies that the formal forest protection it is not a joint affair in the households, nor in the village. Men who had taken part in *thengapalli* knew that there is an FPC in the village, but had varying views regarding who is the current secretary of the FPC (Sadgup or Santal man), and what are the role and significance of the BJFPC and the mobile squad in Burupal. First the secretary was a young Sadgup man, who had been a *sarpanch*-candidate of the Congress party, and argued that there were problems of transparency in the BJFPC. Some Santals supporting the Jharkhand movement, and/or the BJFPC did not consider him reliable, and the secretary was changed to a Santal man.

Some Burupalians said, 'Budhikhamari is our headquarters', or that Gorachan Mohanta (the president of the BJFPC) comes from Budhikhamari, or 'road-side place', since it is on the National Highway 5. Others had heard about Budhikhamari, and others did not associate Budhikhamari with any forest activities.

> Budhikhamari is a bank for us, but our *panchayat* is Hatikote. We've to depend on Budhikhamari for banking transactions and on Hatikote for forest use (a middle-aged Santal man).
> I don't know about Budhikhamari. We're busy with our work (a middle-aged Santal woman).

The following view is from a Santal man who himself had not been to Budhikhamari and saw the mobile squad during the *Makar-puja* in 1996.

> This village belongs to them. The Forest Department recruited Gorachan Mohanta for this area as a forest owner. He motivated people to protect the forest. If there is any illegal felling problem, he informs the Forest Department. At the time of the *Makar*, the mobile group is active (a 59-year-old Sadgup man, Burupal).

If the mobile squad catches a tree feller, they fine that person. If the person does not pay the fine, they 'make him out'.[96] A 25-year-old Santal man said,'The mobile squad doesn't come here. They're different'. Several men did not like the mobile squad,

> The mobile group was working well, since one year not good. People say, you first see your village forest, why do you come here? It's our forest, we may destroy or keep it. Why do you come here? (a 26-year-old Santal man).
>
> What's the profit? They're not doing good work in time. Villagers do all these things. In the name only there's a mobile group. [... They] visit only once a month, like a supervisor. Even if we inform, they don't come in time (a 43-year-old Santal man).
>
> The Budhikhamari mobile squad doesn't come here. They stand at the cross-roads, and collect fines and seize forest items. They don't go to villages. They consume for personal things (a 42-year-old Sadgup man).

Several villagers were critical of the BJFPC. When the Sadgup secretary heard that the BJFPC got some money in the name of 15 villages of the Hatikote *panchayat*, and these villages did not get their share, some villages pulled out of the organisation in 1995. The villagers became demoralised and there has been more tree-felling since then.

> The inner side of the forest is totally fallen [due to] personal benefit in the name of forest protection, be it the Forest Department, NGOs or the BJFPC (the Sadgup secretary, Burupal).

They have had two to three meetings a year, but he is fed up organising meetings, because people are felling trees and

> no law is backing our protection up. [...] There is very little four watchers can do against a group of illegal fellers (the Sadgup secretary, Burupal)
>
> This community is managed by village people. Budhikhamari is managed by the office. [...] In Budhikhamari there is a middleman. Middlemen will exploit. [...] When illegal felling and we're not able to compromise here [in the village], there's law, but not through a middleman (a 42-year-old Sadgup man, Burupal).

According to Fernandes (JFM workshop, 1997), many communities are controlled by middlemen: 'Representatives just say *jii* [yes in Hindi], because have no alternative', but some villagers in Mayurbhanj have said no, and searched for alternatives.

The foresters and the *junglewala* tend to blame each other for destroying the forest. Most *junglewala* collect firewood for household use and accuse some foresters of organising smuggling. Some villagers blame outsiders, 'outsiders cut green trees' and the *junglewala* collect decayed wood. Others blame both outsiders and insiders, and said that before *Makar-pujas* also the *junglewala* fell trees, since it is a big festival, and everyone is supposed to wear new clothes and have special things to eat. Just before the *Makar*, we were with 10- and 12-year-old Santal boys, who felled five-year-old *sal*

[96] In 1996, the mobile squad caught and fined a tree-feller and seized his cycle. The man gave Rs. 100 to the mobile squad (no receipt) to get his cycle and woods back. Then the man came to the village and the members of the FPC did not like the fact that he had given the money before informing them. The FPC of Burupal wrote a letter of complaint to the BJFPC.

poles like real professionals. A 30-year-old Santal man said, 'Some groups fell trees mercilessly, both locals and outsiders'. Some said that 50 Bhumijo and Mohanta households, who have settled on encroached forest land, sell firewood.

> People who sell firewood in the market, they eat the forest (a 59-year-old Sadgup man).

The less there are other forms of gaining livelihood, the more forest-dependent villagers are. For instance, when the Baripada spinning mill production stopped, there was more tree-felling and the BJFPC did more patrolling than usual.[97] Some foresters said,

> People are cutting their own legs with their own axe.
> Out of hunger these people are compelled to do illegal works.

The *junglewala* said that some people have no food, so they fell trees, and others are not poor, but want to get more money.

> People have become greedier (a 32-year-old Santal man).

Tree-felling is connected with need and greed – both relative terms.

A member of the FPC estimated that 35 per cent of the villagers is involved in a good way, and 65 per cent is neutral, and half of the households attend the meetings. A representative of the DIPS said,

> The forest protection depends from the villagers. [...] If they want to destroy, five minutes are enough. If they want to keep, no one is able to destroy.

But many *junglewala* said that the Forest Department can destroy, and blame it for tree-felling.

> If the trees are big, the Forest Department takes them. [...] We're interested to protect the forest. Foresters come and are transferred. They're responsible for destroying the forest. [...] We've grown from toothbrush size to here. If the Forest Department cuts, we'll also cut (a 40-year-old Santal man, Burupal).
>
> If the Forest Department cuts all these trees, what we'll do. We're in a confusion (a 35-year-old Santal man, Burupal).

The Burupalians said that several reasons make the forest protection difficult: the lack of understanding between and among villagers, the lack of unity in protection, irregular meetings, the necessity of group protection, and inadequate co-operation of the Forest Department.

The case-study of Burupal shows the complexity of forest practices and protection efforts in the plains, while the Forest Department tries to change their forest practices to conform to the JFM

[97] Baripada spinning mill production (established in 1983) was stopped in December 1997, when the power supply to the mill was disconnected due to unpaid electric bills. The mill, the biggest industrial establishment in Mayurbhanj, is in Kathpal, eight kilometres from Baripada. Many employees blamed inefficient administration for the plight of the mill (*The Asian Age* 30 December 1997). A Sadgup resident of Burupal had worked there for years, and many family members were dependent on his income.

policy. Mopani village on the edge of the hills will show similar and different aspects of the forest–human interaction in Mayurbhanj.

Mopani

Mopani is situated on the bank of Palpala river on the foothill of the Simlipal Biosphere Reserve, and surrounded on three sides by hills of the Simlipal ranges. Mopani is situated 25 kilometres south-west of Baripada in Baripada Subdivision (Rangamatia Tahasildar Office). It is a revenue village in Kochilaghati (named after *kochila khai*-bird) *Gram Panchayat*, under Shamakhunta Block. There are 11 villages in this *panchayat*, and one inhabited forest area. It comes under Pithabata Territorial Forest Range since 1987. The closest Primary Health Centre, Veterinary Dispensary and bus stop are 10 kilometres from Mopani. The only child of the village who was born in the hospital is called 'Doctor'. After a short description of the place, communities and animals, I examine the connections between stone- and tree-cutting in Mopani.

The Mopanians refer to Mopani as their hamlet, not as their village. Mopani has 11 households, four Bhumijo, six Sabar and one Mohanta household. The Bhumijo is a non-Aryan tribe now largely hinduised. It is argued that they are the same as the Mundaris under a different name and occupy a higher status in the State, because they tend to have more land. The Bhumijo name derives from the Sanskrit root *bhumi* (land) – 'one born of the soil' or 'men of the land'. Although it is difficult to distinguish the two, the Sabar are divided into two castes: the Sabar and the Sahar. The Sahar have adopted more Hindu customs than the Sabar. There are three endogamous sub-castes: Basu, Palia and Paika. The surname of Palia sub-caste is Palai, who were generally employed as herders in the 1960s (Senapati and Sahu 1967: 188). A Sabar man said that there are four types of Sabar: Basu, Sahar, Kani and Jara (nomadic). The first two can marry each other, and the latter two can marry each other and are considered inferior.

The table below represents the age distribution of Mopani. Under-18-year-olds are 39 per cent of the population, six boys and 12 girls, totalling 18 persons. The adult population is 61 per cent, 16 men and 12 women, totalling 28 persons.

Age (years)	Male	Female	Total	Percentage
0-5	2	2	4	9
6-18	4	10	14	30
19-30	6	7	13	28
31-50	7	3	10	22
51-	3	2	5	11
Total	**22**	**24**	**46**	100%

Table 3. The age distribution of Mopani

The Mopanians also practise exogamy, and no wife came from the village itself. Three wives came under 10 kilometres' distance, one between 11 and 20 kilometres, two between 21 and 30 kilometres, and two wives from more than 30 kilometres' distance. 73 per cent of the households have three to five

members, 18 per cent one to two members and 9 per cent six to eight members. 82 per cent are nuclear households and 18 per cent are joint households.

Many ancestors came from the neighbouring villages to work in the quarry. Mopani is a compact village of 17 hectares, including 10 hectares of high land, which is used to grow vegetables, and two hectares of barren hill land (*uchha jami*). Eight households have less than two acres, two households have no land, and one household owns no land, but sharecrops 1.5 acres in a neighbouring village. An average crop from this quantity of land is 125 kilograms paddy and 30 kilograms maize, and half of the harvest gets the landowner. Seven households have inherited land, and two households have bought land. In 1989 *dahi* (upland) cost Rs. 3,000, and in 1997 Rs. 8,000 per *man* (0.75 acre). Fields are rainfed, there is neither a canal nor a pump. The Mopanians have asked for a cross-dam from the Block Development Office, after the last one was destroyed in the flood. Most drinking water is from a 20-year-old tubewell. The river is 500 metres away and the villagers bathe and wash clothes there. There has been a school since 1985, but the teacher did not come there regularly (less than ten days a month in 1997). This is why 'Doctor' goes to school in a neighbouring village, where teachers come more regularly. Five households had no member who was literate, and in two households the parents were illiterate and their children went to school. Three households had a radio.

Most villagers' traditional occupation has been stone-quarrying. The guardians of six households are stone-carvers, and four combine it with farming and collecting forest produce, a household combines cultivation and shop-keeping, another combines share-cropping and gathering, one household is cultivator, the *anganwadi* worker is in government service, and a man in a wheelchair is a beggar. A woman worked in the quarry with her husband, and another woman was an *anganwadi* helper. Two households have one occupation, six households have two, and three households have three occupations. Due to polio a Bhumijo man has been in a wheelchair since childhood, and he rolls to the tourist lodge with his dumb nephew, who lives in Kokpara. They have begged for 19 years together, and what they get during the day, they divide by two. During the rainy season he cannot go, because the river is full of water. The winter is a good time to beg, since more tourists visit the lodge. *Banabhoji* (forest feast) held in December-January and many people, also from West Bengal, visit Simlipal and have picnic in the forest. Often groups of young men in jeeps and trucks play music loud in the forest to the annoyance of the foresters and environmentalists.

The cultivation land is limited in Mopani, and there is less agriculture than in Burupal. The Mopanians cultivate paddy, tomato, aubergine, horsegram, potato, lady's finger, groundnut and mustard. Mustard and groundnut are sold. The Mopanians use cowdung as a fertiliser, and few use commercial pesticides. There is no bullock cart in these three villages. It is not necessary, since they have little land, and live near the fields and the forest. Some fish small fish for household consumption.

Most households (nine) had some domestic animals. There were 14 oxen, nine cows, two calves, 38 goats, 15 chicken and five hens. Due to limited paddy cultivation there is little hay and husk, and domestic animals eat forest foods. Herders are chiefly children, who go in a group of 10

persons. They walk about 10 kilometres a day and stay six to eight hours in the forest, and take no *tiffin* with them. The *anganwadi didi*'s cow is cared for by others, and the owner gets one litre of milk a day, and the herder gets Rs. 150 and a pair of clothes per year. The Mopanians said that the number of domestic animals has increased since the quarrying ban. The villagers buy and sell cattle usually through middlemen, since the closest cattle *haat* is in Balijhoda (40 kilometres), which is close to Burupal. Occasionally they eat wild animals, such as rabbits and birds. For the Barabhunya community of the Sabar, it is forbidden to hunt wild pig, which is their totemic animal. Some years have been without wildlife attacks on domestic animals, but during 1997 there were many. Although crop destruction by wildlife is common, the *junglewala* value wildlife in the forest.

> Wild animals don't attack [people] because we do *Thakurani-puja* (an old Bhumijo man, Mopani).

In the village the Mopanians valued cultivation, cattle, people and fruits.

Generally villagers' expenditure was less in Mopani than in Burupal, and indicates a greater degree of self-sufficiency. In Mopani the average weekly household food expenditure was Rs. 45 (ranging from Rs. 30 to 150). The daily household rice consumption varied from 250 grams to 3 kilograms. The yearly expenditure for clothing varied from Rs. 0 to 600, for education from Rs. 0 to 100, and for medicines from Rs. 0 to 1,000. Women visit Baripada less frequently than men, and the young visit more often than the old. Some men cycle to Baripada twice a month. Two households listen to the radio every day, others a few times a month on a neighbour's radio or in a *haat*. A couple of Mopanians read newspapers when visiting Baripada.

There have been plantation and ecodevelopment activities in the village with non long-lasting results.[98] The Horticulture Department made an orange plantation on the roadside and fields in 1992. A Bhumijo man said, the government distributed the seedlings, but all died due to water scarcity. The Forest Department has carried out some ecodevelopment activities. A pond was constructed in 1993, but it is covered with vegetation and not working in 1997. (Ten persons worked during one week to construct it; Rs. 30 x 10 x 7 = Rs. 2,100.) In 1995, the ranger distributed to the households of Mopani either a queen bee with a beehive, or a *charaka*, a wheel that helps to prepare *sabai* rope, to provide other livelihood than forest, but they are not used. The Forest Department trained only one villager to use the bee-box, and the others tried to learn from him. The cell of a honeycomb has to be broken in a certain way, and they did it differently, and the queen bees left the boxes. Many bee-boxes were sold and one was lying unused on the veranda as a memento of an unsuccessful ecodevelopment project. In many villages of Mayurbhanj *charakas* are wanted, but not in villages around Mopani, because it is difficult to buy *sabai* grass and sell the rope, since they are not a produce of the nearby *haats*. If the Mopanians were to deal with *sabai*, they would have to make a cumbersome journey to Baripada. The Mopanians said 'We've no money to buy *sabai* grass, we're *junglewala*'.

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[98] Ecodevelopment aims to ease the consequences of the forest use prohibition through economic development for the people residing in and around sanctuaries and National Parks to reduce their forest dependency and improve the ecological health of the protected area.

The connections between stone- and tree-cutting

Stone-quarrying, cutting and -carving have been done in Mopani for over 100 years, first permitted by the Maharaja. The Secretary of the Mopani Stone Workers' Co-operative Society said that the Maharaja brought the craftsmen from Dhalbhum (Bihar) 200 years ago. Most households in Mopani and neighbouring villages used to be involved in stonework. Many men had worked in the quarry since childhood, and were *mistri* (carver) by profession. The Mopani Stone Workers' Co-operative Society was established in 1976. Its members have yearly meetings, but the Mopanians see themselves as labourers with little influence on the running of the Co-operative. The peak period was from 1976 to 1988, when 180 persons were engaged to manufacture soap stoneware: stone utensils, plates, figurines and images. Stoneware was exported to Assam, Bihar, Manipur, Uttar Pradesh, West Bengal, and indirectly abroad. In 1991, the Principal Chief Conservator of Forests cancelled the lease issued by the Mining and Geology Department, and since then the licence has not been renewed. The District Forest Official issued under the Forest Conservation Act a permit to the *bona fide* stoneworkers and artisans, when they pay royalty. The Principal Conservator of Forests (wildlife) cancelled the temporary permit in 1992. In 1997 the Chief Minister has given a non-official, verbal permission to work small-scale in one quarry. There are three quarries near the village. Two quarries collapsed during the monsoon in 1996, and to dig them up requires additional funding. In 1997 there were between five and eight stone plate makers from Mopani and Kokpara, and two image carvers from Balasore (86 kilometres from Mopani).

The stone-craftsmen have several skills. In Mopani the stone is soft potstone, and in Balasore hard stone. The image carvers use both soft and hard stone tools (*chheni*, a pointed iron tool), whereas stone plate makers use soft-stone tools. Their work processes are different. The stone-quarrying, -cutting and -carving tools can be divided into two types: the tools used in rough work, such as *kankua* (gulman tree bent), *mugur* (made from *kusum*), *potali*, and *martul* (hammer from *kusum*), and the ones used for final work, such as *matha* (chisel), *karandi* (it looks like a leg, and is made from *banyan*) and *kunda* (*sunari* wood).

First the stone plate makers cut the stone from the quarryrock, and this takes one hour. Then they make the back plain with *kankua, mugur* and *potali*. This takes half an hour per plate. Then they use rough tools to make the shape of the plate, which takes one hour. A *mistri* prepares four plates a day during the monsoon, and six during other seasons. Two women worked in the quarry earning Rs. 20 a day in 1997. They headload the rejected small stones and stonedust with a *jhudi* (bamboo basket, non-literal translation) and put it in low land to balance the ground. A youngster does the same thing with a shovel, which is the property of the Society. Other mostly blacksmith-made tools belong to the carvers. After nine to 10 hours of work they shoulder-load the stone plates to the village. The finalising of stone plates is done in the village by a carver from Balasore with his helper from a neighbouring village. The helper pulls ropes with his hands and makes the plates go round, so that the

artisan can make the final plates. On average, they make 25 stone plates daily, and for a piece the carver gets Rs. 3.30, and the helper Rs. 2.50.

The image carvers make *Kali-murtis* (images of Kali). Their grandfathers and fathers had worked in Mopani, and they hope that their sons will work there too. It takes three months to prepare one piece. They have been carvers for 14 years, and the last four years they have made images. For one piece they pay Rs. 400 to the Society. They sell them to a shopkeeper in Calcutta; for a three-foot image they get Rs. 3,500, and for a two-foot image Rs. 1,600. One of them had lost three fingers in a stone accident. They stay in Mopani to cut the stone from the rock and to make the rough work. Then they bind it with a *siali* rope and carry it to a truck going to Balasore where they do the final work. Half the month they stay in Mopani and half with their families in Balasore.

The Mopanians had different ideas about the current problems in stone-quarrying. The Co-operative Society has not improved the economic well-being of its members, and the villagers are disappointed with it. Some blamed its secretary, who is a resident of Baripada, for almost stopping the stone-quarrying and not employing more people. They said that he is not a good man, since the villagers are not benefiting from the quarry. Others said that he was working fine before the court case. Others said that the Forest Department is opposing stone-quarrying from the core area of the Simlipal Tiger Reserve. The quarries are not in the core area, they are within the Simlipal Biosphere Reserve, which came into existence in June 1994.

There has been a long court case between the Co-operative Society and the Forest Department. After the Forest Department brought a judicial case (26 November 1990) against stone-quarrying, several attempts have been made to allow quarrying. A Collector, Saxena, wrote that although he is concerned about the 'safety of the forests' and appreciates the forest laws governing sanctuaries,

> I am confident that if the Principal Chief Conservator takes an attempt on practical consideration, the Government of India will surely agree to this extraction of stones from the quarries of Baisi, Amba and Dharua in the interest of tribals (Saxena, 1993).

Another Collector, Srivanas, wrote a letter to the Principal Chief Conservator of Forests asking for immediate steps to allow the extraction of soup-stone on payment of royalty.

> We have no right to take away the tribals what we cannot give them, I mean economic livelihood (Srivanas, 1995).

The Co-operative won the case in the District Court (21 April 1997). The Co-operative argued that if the government gives them three hectares to use (the area of each quarry is 0.91 hectares, in total 2.7 hectares), they can protect 1,000 square kilometres from tree-felling. They used the ecodevelopment guidelines of the World Bank (global discourse), where cottage industries are encouraged, to win the case. During the court case, the foresters made no official visits to Mopani, but after the court decision also the District Forest Official came. The Mopanians fear that the stone-quarrying will be stopped completely. When discussing about *kariba* (development), the Mopanians consider stone-quarrying as

developmental work. An old Bhumijo man said 'We should get the lease to cut stone. We'll live happily'.

After the quarrying ban and being made unemployed, some villagers have migrated to *nemal* (outside the District) to work, although would prefer staying with their families. Others have become more forest-dependent, collecting forest produce and felling trees. If there is no permission to cut the stone, nor other means of livelihood, the villagers will fell trees, since most have little land or are landless. To gain livelihood some villagers are involved in stone-cutting, tree-cutting, liquor-making, collecting forest produce: firewood, honey, *sal* and *siali* leaves, *sal* seeds, *kusum* seeds, *mahua* flowers, toothbrush-sticks and medicinal plants. There is tussar, but no mulberry cultivation in Mopani area. Stone- and leaf plate-making are the cottage industries of Mopani.[99]

The struggle between stone- and tree-cutting in Mopani area shows close links between different natural resource practices, and diverse views on them. The Mopanians argued that to allow quarrying would reduce tree-felling, and they could practice their traditional occupation and gain livelihood without felling trees. It seems that indirectly the government wants to do illegal felling. The quarrying ban is backed by the law and the administrative practices of the Forest Department. The Mopanians value the forest and oppose tree-felling.

> In my childhood the forest was good [...] Before one forester and one forest guard, now the forest is divided to many foresters and forest guards. [... This is the] only reason for illegal felling (a middle-aged Bhumijo man, Mopani).

According to the historical narratives of the Mopanians, there was less tree-felling in 1985. Large-scale tree-felling started in 1989, because outsiders from Baripada and elsewhere came to cut trees. This was the time when due to forest protection the pressure from the Budhikhamari area shifted to the Simlipal Reserve Forest.[100] Villagers who come to get wood from the Simlipal forest are called *sabarban*. When outsiders came to cut trees, then also locals started cutting. There is no formal forest protection in Mopani. The *anganwadi* worker turned out to be a relative of the president of the BJFPC, and said

> Here I'm trying to do Budhikhamari idea, but people don't accept it (a 33-year-old *anganwadi* worker, Mopani).

Forest protection and patrolling are dangerous and unpaid. It may bring the villagers into conflict with neighbouring people involved in tree-felling. The *junglewala* fear to oppose tree-fellers. If the

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[99] Several government plans aim to encourage cottage industries. For instance, if there are 20 women who collect and make plates in a *mahila mandal* (women's association), they get Rs. 3,000, which is distributed among them. Women deposit Rs. 12 to the account of the association each month, and when they have Rs. 3,000 in their deposit, they can get Rs. 15,000. The *anganwadi* worker was interested to develop *sal* plate-making cottage industry in the *mahila mandal*. She got the money from the Block Development Office in 1990, but women of the village were not interested then, and she returned the money. She said women had become more interested, and they may try again. A government official said that women pay loans back better than men.

[100] In some villages (near Udala) village forest regeneration meant that the *junglewala* did not have to go to the Simlipal any more.

Mopanians oppose tree-fellers, they fear of being harassed on their way to and from Baripada, and other places alone. The Mopanians said 'Why take the risk?'[101]

On the road to Mopani and in the forest around it there are three continuous flows of tree cutters: *jaleni-wala* (firewood collectors) head-, shoulder-, cycle-, and cart-loading, *patti-wala* (plank makers, transporters of sawn wood) cycle-loading, and 'professional smugglers' equipped with four-wheelers, who transport timber for the market in Baripada and elsewhere. Tree cutters may also be referred to according to the tools they use as *budia-wala* (person with axe), or *karatia* (sawyer). *Jaleni-wala* are the most common agents, and can be further classified into three different types: some collect for their own household, others to sell in the market, and others work as *mulia* for another person. The commercial firewood collectors usually cycle to Baripada to sell it. Some dead or decayed wood laid uncollected in the forest, and implied that firewood was easily available. Another group of tree-fellers are *patti-wala*, who often cut 10 trees during one trip, and tie the timber on the cycle that makes cycling difficult. The name derives from sawn wood, which is called *patta* if it is 1,5 and *patti* if it is 3 inches thick. A stone carver said

> We're getting Rs. 50 here, but in the forest we'll get Rs. 80 (a 50-year-old Bhumijo man, Kokpara).

He was referring to the *patti-wala*, who get Rs. 50-75 per piece of sawn wood. To operate the saw two persons are needed and they work for two days (Rs. 500-750:2 = 250, making about Rs. 80 per day each). Although there are less *patti-wala* than *jaleni-wala*, the destruction they cause is extensive. The third group are 'professional smugglers', who deal with big timber and species of high commercial value. They are fewest in numbers, but cause extensive damage. In the forest there were large trees lying on the ground waiting to be transported. The *junglewala* fear professional smugglers equipped with firearms. Sometimes even the armed foresters avoid them, and few collaborate with them.

The Mopanians support stone-quarrying, and the Forest Department opposes it, and does not license it. In some other villages, there is a conflict within the village over 'quarry-or-forest' preference. For example, in a village 20 kilometres from Mopani, those employed by the quarry support the quarrying, and others, who have other occupations or are dependent on forest produce, support forest protection. The villagers' different livelihood dependencies explain why these are mutually exclusive. The struggles between stone- and tree-cutting reveal the problems in applying uniform policies that do not take the local context and forest practices into account. The case-study of Mopani shows that the *junglewala* combine a variety of income-generating activities, and the conservationist principles of state forest practices may work against preserving the forest in practice and cause stone cutters to become tree cutters.

Concluding notes on the case studies of Burupal and Mopani

[101] According to Karlsson (1997: 139), the situation is similar in West Bengal. Arrested persons may revenge on the persons who help the foresters.

Although both Burupal and Mopani may be called forest villages, they have cottage industry: in Burupal leaf plate-making, *sabai* rope-making and brick kilns closeby, and in Mopani leaf and stone plate-making. In both the inhabitants combine several ways to gain livelihood: they cultivate, use forest produce, graze, work as *mulia(ni)* and *hatua*. The greatest exposure to markets, education, commercial consumer items is in Burupal, less in Mopani, and the least in Simlipal, where the residents are the most self-sufficient.

While the basic natural and human-constructed resources of the villages, such as land, river, forest produce, cultivated crops, domesticated animals, and road, are for all villagers, different communities, men, women and children, and individuals may conceive and use them differently. For caste communities, the use of forest produce is a sign of being 'primitive', 'poor' and 'low caste' having polluting customs. There is a cultural hindrance for the castes to be forest-dependent to the extent the *adivasis* and *dalits* are.

In relation to forest practices I have examined several criteria: the extent of awareness among the villagers of the consequences of deforestation, the extent to which village rules and norms are formed and accepted by the villagers, the representativeness of village leadership, and possible support from the Forest Department (discussion with Roy 1996). Most *junglewala* are worried about tree-felling. The Burupalians are aware of the consequences of deforestation, since they have lived with bush forests and now with regenerating forests. The Burupalians have an FPC, and protect two *jhahiras*, a social forestry plantation and a patch of regenerating *sal* forest. In Mopani, there were personal experiences of the reducing density of the forest, and the Mopanians argue that quarrying licence would reduce deforestation. The Mopanians protect three *jhahiras*, but have no official forest protection activities nor an FPC. In Burupal, the main reasons for forming an FPC were the lack of firewood, fodder and rain. Members pay membership fees to the FPC. The rules of the FPC have changed through time, and the villagers said they were better obeyed before. In the beginning, the village rules and norms were formed in the village, but recently many are formed on the joint committee level or NGO-level. In the beginning there was support from the Forest Department, but recently the relationship has been conflict-ridden, partly because many villagers oppose the organisational conversion of the FPCs into VSSs. The foresters try to convert them so that they would fall in line with the JFM policy and their administration. Past experiences of the villagers make them distrust the Forest Department and they are not sure what to do: some oppose fiercely, others favour VSS, and others carry on with their daily activities hoping for the best. The Burupalians see the regenerating forest as an achievement, and the Mopanians went to court to oppose a complete closure of the quarry. Ecodevelopment activities – pond construction, bee-boxes and *charaka* – have failed in Mopani. A standard policy and a narrow approach in implementation do not fit diverse circumstances. The Mopanians did not ask for ecodevelopment, they asked for the continuation of stone-quarrying, which supports their livelihoods. Quarrying can be a sustainable forest practice, especially if combined with other income-generating activities.

In terms of knowledge of the forest and forest produce, I am hesitant to make a comparison between Burupal and Mopani. There is common knowledge in these places, but also differences. On the one hand, one could assume that there is more detailed knowledge in Mopani, since they have been continuously surrounded by the forest, whereas in Burupal there have been periods of bush forests and now regenerating forests. On the other hand, traditionally Mopani is a village of carvers, and before the quarrying ban men of the nearby area worked in the quarry. For a long time many Burupalians have been farmers, and most of them are not totally forest-dependent throughout the year. The major forest problems in both villages are tree-felling and restrictions to use, process, sell and manage forest produce.

Junglewala's life-worlds, identities and actions are shaped through their negotiations and struggles with the bureaucracy. Vries (1992) argues that authoritarian modes of state intervention lead to fewer opportunities for 'autonomous' participation by villagers, and more dependence on the state. Moreover, coercive forest controls are likely to increase tensions and confrontations between the foresters and *junglewala*. Non-authoritarian modes of intervention are more likely to encourage participation in state programmes and result in finding solutions at the local level. Some agents want to be more independent and struggle for self-determination. The authoritarian mode applies to Mopani, where the *junglewala* have access to a diverse, old forest, but there is daily physical presence of the Forest Department. In Burupal and the BJFPC one can see authoritarian, non-authoritarian and self-determination tendencies. The villagers have more freedom of action with forests. Some agents experience JFM and VSS as imposed forest practices, others as joint forest practices. Some agents aim for self-determination and try to create and support networks. NGOs and the executive members of the BJFPC argue that a village or an FPC is more powerful together with neighbouring villages or FPCs.

Chapter 5. 'Modern' forest institutions

The Budhikhamari Joint Forest Protection Committee (BJFPC): It is 'our forest, we protect it'

Many agents, such as foresters (Swain 1997), NGO activists, and researchers (Jonsson and Ajay 1994), have represented the BJFPC as a model of forest protection in Mayurbhanj. There is a lot of controversy around the BJFPC: over when and how it began to protect the forest, how many villages are part of the BJFPC, the area under protection, who is the boss, the activities of the mobile squad (task force), transparency, and the role of the Forest Department and NGOs. In order to understand the BJFPC and these controversies I investigate the initiation of forest protection, how rules, fines and patrolling have changed, the institutional arrangements of the BJFPC, how the Budhikhamari FPC joined with other villages to form the BJFPC, the number of villages involved, members and guests present in the meetings, leadership and the extent of democracy. Then I examine the relationship between the BJFPC, the Forest Department and two local off-site NGOs: the Mayurbhanj Swechha-Sevi Samukhya (MASS) and the Documentation of Information and Processing Syndicate (hereafter abbreviated 'DIPS').[103] This analysis is based on discussions with villagers in several villages, executive and general body members, and foresters, observing trainings organised by the MASS and the DIPS, reading the *kathas* (books) of the BJFPC, and published reports of the BJFPC.

The initiation of forest protection and protection arrangements: from *thengapalli* to the mobile squad

Due to conflicting interests there is contradictory information about the BJFPC, and its past and current activities. According to the president of the BJFPC, the BJFPC is complex 'like *Mahabharata*'. Jonsson and Ajay (1994) claim that the forest protection started in Budhikhamari in 1983, but K.C. Mishra, who was the Pithabata ranger from 1987 to 1989, said that forest protection in the area started in 1987. He organised an 'awareness meeting' at Hatikote village school campus in January in 1987. Over 60 villagers from seven villages attended the meeting. He said that the villagers will meet their requirements, if they protect the forest by themselves. The villagers thought that it will be difficult, but participants of each village agreed to try to protect an area of 50 hectares of Hatikote and Manchabandha Reserve Forests against tree-fellers, grazing and fire. They protected with *thengapalli* system: daily four persons from each village were on duty. Within two months the FPCs were formed in seven villages. The Forest Department demarcated the protected patches of the villages, and did some forest works (cleaning) to provide employment to the *junglewala*. Under the Farm Forestry Scheme of Social Forestry some villagers raised seedlings. Two watchers and three forest guards were deputed to the area to assist the work of FPCs, and deal with inter- and intra-village

[103] In a general body meeting (17 November 1995), in the presence of six members, the secretary of the BJFPC was empowered to become a member of the MASS. The MASS was formed in 1993, and is a confederation of voluntary organisations of Mayurbhanj District (50 in 1997). In November 1996 in the presence of 13 members, the BJFPC decided to co-operate with the DIPS. The DIPS is linked with the United Nations Development Program and provides printed material about the importance of forest protection with pictures that also illiterate understand (Appendix 17).

conflicts. To create unity and co-operation among villagers Mishra organised 'motivation camps' with (Hindus') *kirtan* groups playing music. After the rainy season of 1987, the regeneration of the protected forest was distinguishable from the unprotected forest area, and this encouraged the villagers to protect a bigger area. After two years, *sal* shoots were 20-25 feet high, and the soil condition had improved.

Mishra said that villagers started forest protection first in Hatikote *panchayat*. A member of the BJFPC claimed that forest protection first started in Ahari 1984-85, then in *Gram Panchayats* of Budhikhamari and Hatikote (1986), Badasole (1988), Khadisole (1990) and Dantiamuha (1991). Although all his timings are not accurate, there was this tendency of forest protection spreading *panchayat*-wise. Mishra visited each *panchayat* to organise FPCs. Budhikhamari was not the first village in the area to start protecting the forest. For example, the first meeting in Burupal took place on 9 January 1987 and the first meeting of the *Budhikhamari Jungle Surakhya Sangha* on 21 September 1987. According to the book-keeping, four foresters, a ward member and 200 villagers attended the September meeting (40 signatures, 25 thumbs) and decided to protect Budhikhamari and Manchabanda Reserve Forests.

There is also disagreement over the extent of the forest degradation in the beginning. Jonsson and Ajay (1994: 42) claim that the forests were not so degraded and protection was needed against 'professional headloaders and timber smugglers from outside'. Whereas Swain (1997: 42), ex-District Forest Official of the Baripada Forest Division and State Silviculturalist in 1997, argues that villagers started protecting degraded and depleted *sal* and mixed forests in an advanced stage of soil erosion. According to the Forest Department's *JFM: Budhikhamari-report* (1997: 1), before 1986 only *sal* bushes and barren eroded land was left. This is also what villagers said; villagers started protecting bush forests or forests reduced to fields. The lack of forest produce, especially fuelwood and fodder, was the main cause for forest protection. According to the president of the BJFPC, Gorachan (whitemoon) Mohanta, many people (200 cycles daily) supplied wood for sawmills. By 1980 there were no *sal* species left, and the *junglewala* of this area had difficulties to meet their daily needs. The *junglewala* said that in the beginning the protection of 'bush forests' was easier than when the protected forests had poles. Decreased supply increased support to forest protection and energy conservation.

The *junglewala* started forest protection with *thengapalli* system and fines. *Thengapalli* is a method of rotational patrolling in which intimation of one's duty day is given by placing a *thenga* (wooden stick) at one's door on the prior evening. The *thenga* is passed on from household to household, stick rotation. A person who is allotted patrolling duty for the day is called *palia*. *Thengapalli* was often discontinued during the busiest cultivation period. *Thengapalli* has advantages and disadvantages. It is a group activity, and may encourage unity and a sense of belonging to the protected forest among the *junglewala*. But it is costlier to the daily-wage earners, who lose their whole day's earning, and some resort to paying a fine to abstain (Rs. 5 in 1994; Jonsson and Ajay 1994: 48).

In Budhikhamari (1987) they made lists of persons (15 each day) who were responsible for watching the forest. Due to difficulties in *thengapalli* and the neglect of the jungle-duty, the FPC

engaged paid watchers. They made several attempts to collect *chanda* (legal or illegal donations; a tribute to Maharaja, non-literal translations) and fees to employ watchers, who got Rs. 15 per day in 1991. In a general meeting (31 January 1994) different FPCs reported faults in forest fire protection, and 30 men were engaged as a mobile group to dig proper fire protection lines. As remuneration they got one lunch a day from the BJFPC. From these watchers and fireline-diggers, a group called the mobile squad developed. According to the president of the BJFPC, the mobile squad was formed to oppose smugglers, who had planned to destroy the forests, and threatened and assaulted the villagers on their way to and from Baripada.

The mobile squad is also called *Jungle Surakhya Bahini* (forest protection party), the mobile party, and the mobile *pila* (*pila* = boys). The mobile *pila* is usually used in bookkeeping and in speaking about the mobile squad, although in 1997 there were also two women members. Women work more around the office, a reason being that they do not have cycles. The mobile squad is supposed to rush to the trouble spots immediately, and prevent tree-felling from spreading. To show what else is involved, I selected some examples from the book-keeping on the mobile squad. The mobile squad caught persons collecting timber without the permission of the committee, seized the timber (1 January 1994), and held an inquiry in the BJFPC office. The mobile squad went to collect 'donations' of five rupees from households, and saw *sal* logs in the courtyard of a house. The guardian attacked one member with a bamboo stick. They ordered the Pithabata ranger to seize the logs (15 December 1994). When the mobile squad collected money from the leaf-pickers (Rs. 1 per person), a police officer said

> Is this forest your father's property? You collect money from the poor people (a police officer, Budhikhamari).

They informed the Superintendent of the Police to prevent this kind of disturbance in the future (30 September 1995). The interview committee recruited new mobile squad members with a written examination so that they 'understand what goes on in the meetings' (25 December 1995). In the presence of the Collector (the head of the District administration), the directors of the District Rural Development Agency and the Integrated Tribal Development Agency, and 69 villagers, the District Forest Official of Baripada (Swain) distributed *khaki* uniforms to the mobile squad members (3 December 1996), which also women sometimes wear when working. Mishra said that Swain 'boosted the morality of the people'. Two weeks later they decided that the mobile squad starts working 8 a.m., does night duty due to increased 'illegal felling', and keeps in touch with the FPC-members, villagers and foresters. The decision to start night vigilance (when necessary) ends with a thought about forest ownership: *Ama jungle ame jagibu* (Our forest, we protect it). In April 1996 they decided that the president of the BJFPC may call any person at any time for protection work. Apparently, there had been problems, since the members of the mobile squad voted who stays in the squad (11 yes, seven no, two perhaps absent; 28 March 1997).

On the one hand, the mobile squad is argued to be mobile and move in different villages and aware people about forest protection. On the other hand, they seem to be gate-keepers and have four checkpoint places where they watch (26 March 1994). It is a duty of the mobile squad to collect fees from villagers (Rs. 5 membership fee, and Rs. 2 monthly subscription fee), and some villagers have attacked them. Some said that the mobile squad is busier collecting money, than protecting the forest.

Different agents saw this development from *thengapalli*, paid watchers, fireline-diggers to the mobile squad as a professionalisation of community forest protection, an imitation of the foresters, a resistance to the power of the Forest Department, a creation of middlemen, centralisation, or as an alienation of villagers from forest protection. The executive members of the BJFPC have paternal proud over the mobile squad in their *khaki* uniforms, and said that because of the mobile squad there is no need for foresters in the area. According to an executive member of the BJFPC, the Forest Department was in control ten years ago, but the BJFPC

> has become more powerful that the Forest Department here (an executive member of the BJFPC, Budhikhamari).
> Without the forest guards and foresters, people do all these things (Gorachan Mohanta said with pride, Budhikhamari).

Some *junglewala* did not share this view, and saw the members of the mobile squad acting as foresters, both are patronising, have a policing attitude, and wear *khaki* uniforms. By wearing *khaki* they may earn a lot, a forester said. The members of the mobile squad have adopted the culture of the Forest Department. Some *junglewala* feel that instead of foresters they now have the mobile squad policing the forests, and fear them as they feared the foresters. Many foresters did not want to be posted to the area of the BJFPC, because 'we have little to do', and because of the forest protection their income is likely to go down. Many *junglewala* have not seen the mobile squad and feel that their forest is not protected well enough. Many Burupalians said that to have forest in the future, they should continue *thengapalli*, which is their way of showing that a particular patch is their forest.

The BJFPC has restricted firewood collection in relation to several factors: membership, paying a fee (cash, kind), gender,[104] occupation, area (types of terrain), time (fixed seasons or days of collecting), species, fixed quantity, condition of the produce (maturity, alive or dead, part of the plant), and prohibiting the use of tools (sickles, saws, axes). In August 1987, they (20 signatures) decided to collect 'donations' from households and *sal* leaf pickers from other villages (Rs. 2/day) to employ watchmen. Villagers who did not contribute to these funds were not allowed to enter the forest, so it is not a 'donation', it is a fee. The permitted firewood is *sukhila jhuri jhata* (dry leaves and branches), *ajatiya* (dry small timber), *anabana katha* (cords and small trees). In April 1992 they decided that every household could collect one bundle of dry firewood, and little more for *pujas*. For example, two bundles *bejati katha* (not valuable wood) and *thunta* (stamp) before the *Makar-puja* (January 1996). In January

[104] Men are permitted to collect firewood only on Fridays (January 1993).

1993 permissible species were *atundi, paruli* and *kulutchi*, and in December 1994 also *sidha, kantakoli* and *khankada*.

Although firewood collection rules have changed, only collection for household use is permitted. This restriction causes many problems for people in occupations, such as blacksmiths, potters, charcoal and liquor-makers, who need firewood for commercial purposes. In October 1995 they decided that blacksmiths and potters are allowed to collect firewood once a week for household purposes. From January 1997 onwards every household of the potters' hamlet should give Rs. 10 monthly to enter the forest. The residents of the potters' hamlet disapprove the restrictions imposed on them, and have not attended the meetings. Although collectors are classified and some groups face more restrictions than others, in several meetings the participants emphasise the importance of the unity of villagers in forest protection. The president of the BJFPC said in several villages he visited,

> Where there's unity in village, there's development. Where there's no unity, there're problems. [...] After unity, everything comes. [...] Where there's unity, it's easy to convince the people (Gorachan Mohanta, Budhikhamari).

In some villages after people started protecting the forest and had become united in one issue, they have included other activities, such as celebrating *pujas* together.

> If you just say tree, tree, tree, people aren't interested. [...] Other activities are also needed (Gorachan Mohanta, Budhikhamari).

United villages are able to achieve something, but because of conflicting interests, it is not easy to achieve unity.

Institutional arrangements

Jonsson and Ajay (1994: 42) claim that outside pressure was the main reason for joint protection approach. Whereas according to Gorachan Mohanta, because of the demarcation conflicts and free use of forest assets, they decided to form a joint FPC. The leaders of the BJFPC aim to help solving problems in single FPCs. A strong FPC may become weak after the death of its president. Although outsiders' and insiders' forest uses are interrelated, the more forest protection movement spread, the fuelwood collection for sale shifted from the Budhikhamari area to Simlipal. The foresters said that forest protection is happening in the BJFPC, but not in Simlipal, because 'the element of consciousness is not there'. The residents of Simlipal said that forest protection is difficult due to outside pressure.

The structural organisation of an FPC and that of the BJFPC follow a similar format. At the village level the general committee of an FPC consists of adult male members from households (guardians, and women if woman-headed households), who contribute to patrolling and/or pay the membership fees. The executive committee, which Jonsson and Ajay (1994: 46-7) call the Joint Protection Party, consists of selected members, the main ones being the president, the secretary and the

treasurer. The executive committee coordinates the protection efforts of the mobile squad, has notebooks of regulations, accounts, members and visitors, and has meetings every two years. Although Jonsson and Ajay (1994) claim that the BJFPC was organised consisting of 25 FPCs in 1990, according to a resident of Budhikhamari, before 1993 there was only an FPC of Budhikhamari, and in 1993 new members were recruited. According to the book-keeping, in January 1993 the name was changed from the *Budhikhamari Grama Jungle Surakhya Samiti* (Village FPC) to the *Juguma Jungle Surakhya Samiti Budhikhamari* (BJFPC) with villagers from two villages (Budhikhamari and Kailaschandrapur) attending. In 1993, it was registered under the Registration of Societies Act XXIoc, 1866.

The area of the BJFPC and the number of involved villages varying from three to 95 are contested topics. The BJFPC area is claimed to cover 3,250 hectares of *sal* mixed forest type from Baripada to Betnoti (Jonsson and Ajay 1994). These forests were first under coppice working circle (1952-72), and during the next working plan period (1972-92) under rehabilitation and plantation working circles. Nearly 5,000 villagers depend upon these surrounding forests to meet their fuel and fodder requirements, and to earn their livelihood (JFM: Budhikhamari-report 1997: 1).

Some members of the BJFPC claimed that 95 villages were part of the BJFPC in 1997. They claimed that in 1988 it was 65 villages, in 1994 95, and in 1995 55 villages. Even the president of the BJFPC said to me different numbers of the villages in their organisation, he said 95 on one occasion, 65 on other, and showed a list of 77 villages: 56 of them classified as official and 21 as unofficial. It is not clear on what grounds the villages are included. For instance, in the list there is a village 70 kilometres from Budhikhamari. The leaders of these committees have met, and both committees have links with the MASS. The MASS claims there are 60 FPCs in the BJFPC, and has organised them into four clusters. Many residents and foresters of the area said that the numbers are exaggerated. Most of the incidents documented in the book-keeping of the BJFPC cover incidents of four villages and one hamlet. Several FPCs joined the BJFPC during 1994-95, and the books have name-lists (not signatures) of the guardians of the households. The first time the Santal secretary of the FPC of Burupal attended the (general body) meeting of the BJFPC was in January 1995 (his signature is among the 116 signatures, including nine thumbs and no women). The first time a resident of Burupal attended a meeting was in April 1996. He was a cluster organiser of the MASS in 15 villages of the BJFPC in 1997. Cluster organisers are employed by the MASS, and supervise the mobile squad (7 December 1996) and receipt books of the FPCs (29 November 1997).

According to the six books, there had been 109 meetings up to January 1998. The total number of signatures (2,045; 91%) and left thumb impressions (206; 9%) was 2,251.[105] On average, 21 persons had been present in the meetings. Women had been present in 12 meetings (11% of the meetings) and the total number of women present was 16. The participation of women is low, and attempts to involve women are relatively recent. After a lady social forester gave training in

[105] Signatures do not necessarily mean that a person is literate. For example, the president of the BJFPC is able to write his signature, but otherwise illiterate.

Budhikhamari, the first woman attended a meeting in May 1993, and she was a member of the mobile squad in 1997. When women attend FPC meetings, they rarely speak before the gathered men or foresters. There are very few women foresters in Mayurbhanj, who mostly do office work or work in social forestry. The Forest Department is a male-dominated organisation, and most official forest discussions take place between men. This is common also elsewhere in India (Poffenberger and Singh 1996: 72).

Women are often stereotyped as the conservators of nature or as the primary users of forests, as fuelwood and fodder collectors. According to the president of the BJFPC, women's firewood collection makes forest protection difficult. This kind of attitude works as a deterrent against women's participation. It is women's responsibility to cook and most households use firewood to cook. People 'eat' *khaadya* (food), fire 'eats' *khato* (fuel). (The use of leaves, twigs and branches creates poisonous smoke and diseases.) Women are interested to protect the forest, but their first priority is to cook for their families. Women rarely collect fuelwood for sale. The foresters said 'we don't touch women'.[106] This is one reason why women collect firewood; to prevent male household members being caught and fined collecting firewood. Women's involvement in forest protection is important, because if only men protect, others villages' women may come to the protected patch and men cannot touch them, but women can. 'It's in our culture', a villager said. If foresters and other men do not respect this cultural boundary, they may be accused of harassment.

Women's non-involvement in FPCs and VSSs is attributed to several causes. Agarwal (Workshop, Delhi, 1997) has analysed the forms and levels of participation (formal membership, attending meetings, speaking out in meetings and weight given to opinions)[107] and constraints, such as laws, socially legitimised rules, cultural barriers (norms of gendered behaviour), absence of 'critical mass' (one woman in a group of 15 men), discouraged drop-outs (suggestions not listened, so drop out from meetings), logistical barriers (timing of meetings, many household duties), and age and marital status (in addition to class and caste constraints). Women are not called to attend the meetings, and male views are taken as household views. The MASS has tried to encourage women's participation in forest protection, meetings and trainings by having a woman trainer training women-only groups.[108] Most women do not patrol forests, but in some villages women take part in *thengapalli* during the day, and may have women's meetings about forest protection.

Although most residents in the area are *adivasis*, when the organisations are formalised, those belonging to the general castes often became leaders. After the formation of the BJFPC, the Mohanta community became the most predominant group in the executive body, where there were ten Mohantas and ten members from other communities (Bindhany, Dehuri, Hansda, Marandi, Purty, Sing). In

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[106] Contrary to this claim, the residents of Simlipal said that the harassment of women, especially of young, non-Christian *adivasi* women, is a common practice in Simlipal.

[107] A belief that a woman should not share knowledge in the presence of the elder male members of their family, whereby they may attend meetings but remain silent.

[108] Many *junglewala* turn up towards the end of the meetings to have their belly full. They do not see much meaning in these meetings, and considering their cosmovision model, awareness-creation and forest training among them is questionable. Most foresters and NGOs claim to aware people, but there is no need for this one-directionality: the *junglewala* can teach and aware others.

addition to these, the meetings were attended by the following communities: the Sabar (Bhakta, Bisoi, Dalei, Dangua, Palei), the Santal (Besra, Hembram, Kisku, Majhi, Murmu, Soren, Tudu), Bagal (herder), Behera (potter), Chandra, Kumar, Naik/Nayak, Patra (weaver) and Prasad. First Gorachan Mohanta was the president of the Budhikhamari FPC, and since 1993 he has been the president of the BJFPC. He has presided most of the meetings. In April 1996 a commander and a second commander for the mobile squad were recruited from the Mohanta community. The Mohantas are agriculturalists and involved in *sabai* grass cultivation, and some encroach forest land for *sabai* cultivation.

In several meetings they discussed the non-attendance of members in meetings. Few meetings were cancelled because members did not attend them, and in April 1996 they were asked to give reasons for non-attendance.[109] More members attend the general body meetings than the executive body meetings. Guests are invited to have more people attending the meetings, get recognition, and funds from outside. Although sometimes the invited guests do not come, the BJFPC has been visited by government officials, politicians and representatives of various NGOs. For example, the Additional District Magistrate attended the ninth anniversary (31 January 1996) and wrote in the guest book of the BJFPC:

> I am extremely impressed with the involvement of the committee members in safeguarding the forest. There are many Village Forest Protection Committees in Mayurbhanj, but Budhikhamari is the model one, and it will be supported in all spheres (Additional District Magistrate, Budhikhamari).

The District Forest Official said that if you work as VSSs, then the Forest Department will promote and support you financially. A Congress politician said that the activities of the BJFPC are highly appreciated in national and international levels, so that also local officials should promote them.

In addition to fees (from members and collectors) and fines, the funding of the BJFPC has been from NGOs, government agencies, and companies. The authorised collectors of the BJFPC collected membership fees, which increased from Rs. 2 to 5 in March 1994, from member households. In the same meeting they decided to open a bank account. The BJFPC has applied funding from different sources for diverse purposes, such as smokeless *chullahs* (cooking stoves, 2 November 1993), a plantation project of 50,000 seedlings in *fanka* (open land; where no tree), *parita* (barren government land) and *gochar* (community grazing land) in reserve forests (24 November 1993), and plantations in kitchengardens (9 August 1997), *sal* plate production project (10 July 1996), to print leaflets, organise rallies and World Environment Day ('global meets local'), and to remunerate the mobile squad.

There have been problems with transparency. After the treasurer was absent for four months in a row in 1994, they asked a chartered accountant to make a report. In 1995 there was resentment among members because the collected funds had not been deposited to the bank account, and the

[109] There is some mismanagement sometimes in the bookkeeping of the meetings. For example, in nine cases a person has signed his name twice: one in Oriya and another in English. This may be done to fulfill the bye-law, according to which two-thirds of the members have to be present in a meeting. Some signatures are dated differently from the dates of the meetings. Some of those who previously gave left thumb impressions were able to write their signatures in later meetings.

president of the BJFPC had not distributed funds to the mobile squad. In July 1995 the village presidents were entrusted to collect membership fees. After forming a new executive committee in August 1995 (11 signatures), they decided to punish (possibly inform the police) those who neglect their forest-duty, do not collect money from the NTFP collectors with the receipt book (Rs. 1 for fuelwood or *sal* leaf bundle) or deposit the money to the secretary of the BJFPC in the presence of the president of the BJFPC. In January 1996 they decided that from the incomes of the FPCs, an FPC keeps 70 per cent and gives 30 per cent to the BJFPC to cover different expenditures: costs of administration, printing, court cases (which are costly, because of 'undertable money'), meeting arrangements, the mobile squad, and daily allowances of the secretary and the president. Some villagers and foresters oppose the BJFPC, because of the mismanagement of financial matters, and the lack of transparency.

Rules about the authority of a single FPC and the BJFPC, as well as who has the authority to issue permits and timber have changed. In a general body meeting (31 January 1994, 61 signatures; another meeting on 24 June 1995, 13 signatures) they decided that all secretaries and presidents of the FPCs are entrusted to solve their problems at the village level, and when this is not possible at the joint committee level. The decision of the BJFPC is given in a written form with the signatures of the president, secretary and three members. In February 1995 they decided that for marriage and funerals timber can be taken with the consent of the FPC only, but for house construction and everyday household consumption (firewood) the approvals of the president and secretary of the FPC and the president of the BJFPC are needed. In December 1996 they (33 names, two signatures) decided that villagers can collect NTFP with the permission of the FPC president, who keeps the receipt income. They state that every person has equal rights in the forest, so no one should exploit the forest excessively for the self-interest. When collectors without a permission-slip are caught, their punishment is decided on the spot. If the FPC disagrees with the judgement, the matter may be forwarded to the BJFPC. In Burupal first members of the FPC decided in meetings, but in 1997 the cluster organiser issued permits to cut trees. The issuing of timber is an example of the fluctuating centralising and decentralising approaches within the BJFPC.

What kind of leadership and what is the extent of democracy within the BJFPC? The president of the BJFPC is a man in his sixties, Gorachan Mohanta, and the ward member is the president of the FPC of Budhikhamari. Some argued that other people take credit in Mohanta's name, others that he is a rude leader taking credit from others' work. An executive member of the BJFPC said

> Gorachan-*bhai* (brother) is like a statue of god. We [the BJFPC] are like the *mandir* (temple).

Others said that he was involved in smuggling before his involvement in the FPC and was involved in illegal activities also in 1997. The president of the BJFPC has been accused of organising harassment, beatings, even murder, when he has been caught supplying logs. People are afraid of him, and there are criminal cases against him.

For a couple of years, there has been a confusion over leadership. New groups have entered and claim that they are leaders, and are interacting with outsiders. Gorachan Mohanta said that they have not been able to solve problems among villagers for two years.

> For 10-12 years we protected forests and have had no problem from the Forest Department, but we've started fighting among ourselves (a resident of a neighbouring village to Budhikhamari).

Some said that an anti-social group has organised themselves against the leaders. There seems to be a leadership-struggle between old and new leaders. Old leaders are Gorachan Mohanta with two old men from Budhikhamari, and new leaders are three educated *adivasi* brothers (Ho tribe) in their thirties. The eldest, Bishmu Purty, owns the land – he is the secretary of the BJFPC and a *Zilla Parishad* member of the Congress party. Some said that the BJFPC is a vote bank for the Congress party.

> [The BJFPC] is not an NGO. It's a political group. They're all from the Congress party (a man from an NGO, Baripada).

> Since some years we protect the forest. Now political parties are interfering and then it will be easy to cut the forest without villagers interfering. Now the government saw that the trees are growing, we have no role there, now they want to have VSSs, so that they can say the Forest Department has done it. The Forest Department has recruited some political leaders to them [in 1997] (a 43-year-old Santal, Burupal).

Another brother is in charge of seedlings – he is a cluster organiser employed by the MASS. The third brother extracts fertiliser and is mostly involved with the DIPS. The brothers have recently become powerful in the BJFPC; the cluster-organiser brother's first signature in the BJFPC meeting was in January 1996. Several foresters and NGO-representatives said that the leaders of the BJFPC want to profit from the organisations and misguide people. There is no elected representative leadership in the BJFPC or the FPC of Burupal. The FPCs are all-male-clubs, and all households are not represented. Women's participation is almost non-existent in the FPCs, but significant in forest use and protection.

Although there has been some change in the topics over the years, the most common topics deal with faults in forest protection, bending 'donations' and how to raise funds. Later meetings deal with administration, the mobile squad, cluster organisers, issuing of timber, and 'forest training'. The composition of the FPC, duties of the office bearers and communities, the distribution of produce, conflict resolution and penalties for defaulters (to discourage free riding) have changed.

The disparity in estimates arises from conflicting interests. On the one hand, the bigger the area, the higher the number of the FPCs, the more participants in the meetings, the more important player it is considered to be, and the more seriously the executive members of the BJFPC hope the Forest Department and funding agencies to take it. On the other hand, the more these numbers are manipulated, the more inaccurate picture of the organisation and its activities is made.

The BJFPC and off-site agents

When forest protection started in Budhikhamari area, the relationship between the Forest Department and the FPC was supportive of each other. Many villagers expressed their gratitude to 'Mishra-*babu*' who encouraged forest protection.

> Mishra-*babu* was the first and last forest officer here. He visited each *panchayat* to organise FPCs (Gorachan Mohanta, Budhikhamari).

After the transfer of Mishra in 1989, the relationship between the FPCs and the Forest Department has deteriorated and become conflict-ridden. Nevertheless, the Forest Department (Mishra and Swain have been the most active) has contributed to its initiation, spread and consolidation in different ways. The support of the Forest Department includes demarcation, providing *khaki* uniforms, photo identity cards (to avoid harassment from the police), whistles, cane sticks, social forestry project, help in some legal cases, organising meetings and rallies, and visits to other places to spread forest protection (Conroy *et al.* 1999: 65). The 'Apex Forest Protection Committee' got a certificate from the District Environment Society and the Environmental State award of Rs. 2,000 in 1992. With the permission of the ex-District Forest Official (Swain), the Budhikhamari beat house was turned into the office of the BJFPC, and next to it is a *Paribesh(a) Sikhya Kendra* (Environmental Education Centre; environment = spirit-image; image of spirit, non-literal translation; *pari* = spirit; *besa* = image). During Autumn 1997 the ranger instructed a forester to stay in the beat house. The last forester stayed there in 1992, but now 'Boys and girls are staying there night and day. How can I stay there?', the forester said.

Some agents emphasise the similarities between the BJFPC and the Forest Department, others stress their differences. Conroy *et al.* (1999: 65) stress the similarities, Budhikhamari villages have joined and formed a confederation, which

> operates as a *quasi* Forest Department, organising a mobile squad for group patrolling, catching offenders and penalising them and even to the extent of putting restrictions on who can buy a leased NTFP item from the area (1999: 65).

Many members of the BJFPC and NGOs stress the differences and criticise many government rules. The main factors causing disagreement between the BJFPC and the Forest Department are the question of forest ownership, rights to collect and manage forest produce, illegal activities, and the FPC-VSS conversion. The Forest Department sees itself as the forest owner, whereas the members of the BJFPC argue that 'who protects is the owner'. Since May 1994 the BJFPC has made several proposals to the District Forest Official to collect, process, manage and sell NTFP, such as *kendu* leaves, tussar, bamboo, *sabai, mahua, kusum, karanjia, sal* leaves, and *sal* seeds.[110] The BJFPC book-keeping uses the term Village Forest Protection Committee (VFPC), and the MASS Village Forest Management

[110] The president of the BJFPC claimed that in 1993 the BJFPC collected 230 *quintals* (a *quintal* = 100 kilograms) *sal* seeds in three collection centres at the rate of Rs. 1.50, and sold them to the Orissa Forest Development Corporation at the rate of 1.75. According to the *JFM: Budhikhamari* report of the Forest Department (1997), 780 *quintals* (collection agents' figure) of *sal* seeds were collected from the entire patch in 1992, which was worth Rs. 97,500 (780 x Rs. 125/*quintal*).

Committee (VFMC) to emphasise that it is not merely a question of forest protection but management. An executive member of the BJFPC argued that the use of the term VFMC is against common sense:

> First protection, then management. Without protection, no management. If you protect, then you have authority to manage (an excecutive member of the BJFPC).

Since all households are not participating in these committees, and I consider forest protection as a type of management, I refer to them as FPCs.

One reason for the conflicts between the Forest Department and the BJFPC is that some of their activities are illegal.[111] For example, in March 1994 the BJFPC issued a permit to cut 73 *sal* and *kendu* trees for house construction to a person who has two houses and lives in Baripada. While transporting the logs in three bullock carts they were caught, and the police seized the logs, and handed them over to the Pithabata ranger. Agents followed the instructions of their institutions, and there was a clash, because the rules of the institutions are pulling in opposite directions. The foresters saw the villagers as law-breakers and seized the logs and bullock carts, whereas the BJFPC perceive the Forest Department to oppose their management and the right of the president of the BJFPC to issue timber (29 May 1993). To avoid this happening again, they prohibited firewood transportation with a bullock cart in July 1994. Another example is a secretary of an FPC, who was recruited as an executive member, although is claimed to be a leader of the liquor-making group in his area (1 January 1994). In the same meeting the BJFPC decided that *katha bepari* (wood-businessmen) are forbidden to buy any wood from private land, although this is against the law, since any person can buy it with the permission of the government. This prohibition may be an attempt to get funding from wood-businessmen. Although in July 1996 the BJFPC decided to inform *Indira Awaas Yojona* contractors not to buy the logs from 'illegal fellers', some claimed that the BJFPC itself sold green poles to them. There was a telling note inside a book saying

> a truckload of logs OSM [register number]. Who is responsible for the logs: the BJFPC or anyone else? (15 April 1997)

During the same year, the District Rural Development Agency gave Rs. 66,000 for a plantation program. It is claimed that only Rs. 20,000 was spent for the plantation program, and the rest was distributed among four members of the executive body. According to the book-keeping, the mobile squad and cluster organisers plant the seedlings, and get their remuneration from village 'donations', and villagers should not give anything (tea, cigarettes) to them as remuneration (10 September 1997).

The BJFPC has been more interested in community forest management (hereafter abbreviated 'CFM') than JFM to be more independent from the Forest Department. The BJFPC supports CFM, where the community takes the lead, manages the resource while the Government is a supporter, adviser, and similar to the Department of Agriculture, rather than JFM. Many members of the BJFPC oppose converting their FPCs into VSSs, and the way the Forest Department tries to force them to fall in line

[111] In many parts of Western India, the rules framed by the FPCs are violating the forest law (Sivaramakrishnan 1998: 286).

with the JFM policy seems only to increase their doubts, resistance, and tensions between the villagers and foresters. Some villagers support JFM, co-operation with the Forest Department, and the VSS, because they do not consider it harmful to their livelihoods, and would like to have financial and legal support. Every VSS is promised Rs. 5,000 to organise a VSS, and some would have 'developmental activities', such as remuneration for those protecting plantations, especially if microplans are made. Some villagers see this as selling the forest to the government. During 1996-97, the Forest Department declared nine FPCs as VSSs, and the BJFPC meeting condemned this, and requested the villagers not to convert partly because tree-felling increased in these villages (17 May 1997; 33 signatures). A forester said that due to the lack of the Forest Department's co-operation, rumours got hold of the doubt of the villagers, and they felled trees.[112] A member of a VSS that used to be an FPC with the BJFPC said 'After the VSS, the BJFPC is not co-operating'. The main reasons why FPCs and the BJFPC oppose the VSS, is that the Forest Department can fell the trees without the consent of the villagers and the VSS,[113] they consider themselves already organised, and by converting to a VSS the autonomy and power of the organisation is perceived to be less or even lost.

Some are interested in forest protection as an activity, others in institutional arrangements around it.

> I don't care if it is JFM or CFM, but I'm interested to protect the forest (few Burupalian men said).

Others preferred CFM, and saw JFM as an aim to tame FPCs. Many villagers said that the 'VSS is run by the government'.[114] Some said that the Forest Department wants to have VSSs so that they can say that because of the Forest Department the trees are growing and undermine villagers' forest protection. Some NGOs aim for CFM and see JFM as a step in that direction. The Forest Department would like to see local communities as resource-protectors, but hesitate to see them as resource-managers. Many foresters found CFM and community-based forest practices problematic, because they leave less room for foresters to control.

Some foresters criticise the way JFM policy is implemented in Mayurbhanj. The use of pressure and forced conversion is not necessary; one needs to show that the benefits of the VSS in practice. A forester in our discussion compared the BJFPC with the Arabari case in Midnapore District, West Bengal, which is considered as the first success case of JFM. The forest protection started in Arabari in 1971, and in 1997 this project covered 1,272 hectares, employed a ranger, and

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[112] A forester wrote that 80% of villagers have positive attitude towards forest protection through JFM, and 60% of foresters have positive attitude, 20% have negative attitude and 20% are neutral. Some foresters implement these policies, others do not, hence people doubt the policy. The transfer of a forester may change the local implementation of the forest policy.

[113] There have been cases like this. For instance, in Katamegh, Angul District, villagers having a VSS guarded nearly 500 acres of bamboo forest for ten years with *thengapalli*. Local bamboo artisans were not allowed to chop bamboo, and had to take up other professions for the lack of raw material. The Forest Department leased out the forest to a paper mill contravening the joint management scheme, although villagers oppose this (*The Telegraph*, 19 December 1997).

[114] Many FPCs have been formed in informal way, 'You'll be the president'. Villagers would like to decide the president of the VSS, and opposed the *naib-sarpanch* as the VSS president, because of the political party links. 'If we become a VSS, the leadership will not be with us.' With VSS notebooks are kept with the forester – the Forest Department. Many villagers see this gesture to take away their forest protection efforts and the rights that existed. Many villagers prefer a situation 'when we hold papers and decide'.

received funding from the World Bank. In Arabari every year some patch of the forest is harvested, and villagers get their share (25%) on their bank account, whereas in Orissa by 1997 hardly any harvesting of the VSS-forest had been done. He said that in Budhikhamari area the Forest Department is under a 'false' impression that people protect the forest, and the Forest Department has nothing to do, so they have withdrawn from the area. The foresters do not take this matter seriously. There is no neutral person to solve conflicts. He said that government agencies are not doing enough for the BJFPC, so many agencies try to get benefit from them, and it may be destroyed in the future. The leaders of the BJFPC have benefited. A forester said,

> People are now low and respect the leaders, when they don't, it will dissolve. [...] Leaders aren't protecting, villagers are. We've to create a financial scheme that benefits all villagers, not two or three. [...] The MASS gives money to 4-8 persons, not all benefit. [...] Are they transparent? No. How long can they keep villagers in the dark? [...] Now the trees are mature, they'll be destroyed. Smugglers say the government will cut your forest anyway.

For Swain (1997: 42-3), the BJFPC is an example of 'symbiotic relationship' between the foresters and *junglewala*, and where the 'idle labour in the village has become useful'. Increased biodiversity and forest productivity in regenerating *sal* forests provide subsistence to the *junglewala* and enhance their income generation. Despite its weaknesses, participatory biodiversity management needs to be encouraged as a 'good tool' also in Simlipal, argues Swain (1997: 42-3). His aim is to incorporate the principles of forest extension with the theories of scientific management to improve forest management. Much depends on the foresters' ability to solve group conflicts in demarcating land and sharing the usufructs.

The foresters who have been involved from the beginning are disappointed by the recent developments in the BJFPC, and its material, organisational and legal demands to the Forest Department. A forester said that all outsiders try to destroy the forest: the Forest Department, NGOs and politicians have 'allured the leaders and moulded it to their track'. The ex-District Forest Official, who had distributed many things to the BJFPC, was invited to attend a meeting of the BJFPC in 1997, and said 'They are motivated by money. What do we do there?'[115]

The 'green hymns' of forest protection

After the discussion of forest practices in Burupal, Mopani and the BJFPC, I briefly analyse the 'green hymns' of forest protection. The forest is a common topic of folklore. There are traditional riddles and songs about forest fire. For instance, the Santal have a riddle: 'All the jungle

[115] An interesting contrast to the BJFPC is the Betnoti Apex Organisation, which started in 1993. It claims to consist of 170 revenue villages and few hamlets mostly in Betnoti Range. The secretary, also from the Mohanta community, said, 'We cannot protect the forest without the help of the government'. The secretary wanted to discuss in the Betnoti Range Office with the foresters present and participating in the discussion. This setting reveals its relationship with the Forest Department, which differs from that of the BJFPC. A forester said, 'the Apex works sincerely, and this is why the Forest Department supports it'. There may be another reason. Several informants said that the Betnoti-Apex is a vote bank of a politician who is the president of the organisation and was the Minister of Forests and Environment in 1997.

burns but the tail of the quail is not burnt. The root of a tree' (Archer 1974: 42). The next example is a Santal song about forest fire.

> The Sin forest is burning, the Man forest has become dust and ashes,
> Do, Chita, go and see what water there is in the well!
> Do, Chita, go and find out what water there is in the spring! /
> I have been and found out about the water in the well,
> I have been and seen what water there is in the spring.
> The well is full of water, the spring is brimming over with water. /
> Do, Chita, dip up your vessel and bring water from the spring.
> We two shall pour water on the Sin forest
> we two shall sprinkle on the Man forest and extinguish the fire (Bodding 1986: 95-6).[116]

The forests are burning and the first worry is that if there is enough water in the well and spring. After finding out there is plenty of water, people are encouraged to carry water and extinguish the forest fires.

Many contemporary forest songs emphasise the value of the forest from birth to death, and these 'green hymns' encourage forest protection, as the following three songs show. The *junglewala* made the first two songs, and a forester the third song. The secretary of the BJFPC, Bishmu Purty, sang the following Ho forest song in Budhikhamari. Other communities have similar kinds of songs.

> My brother and sister, join and protect the forest and the hill. Carefully know all species of the forest.
> In the forest, there are medicinal roots, fruits and oil seed trees. Come.
> Marriage, the tree is in the homefire. In festival, there is also tree. Whether sunshine or winter we need trees. We'll go from the earth with the tree (Bishmu Purty, Budhikhamari).

It addresses fellow villagers with kinship terms, 'my brother and sister', and this kind of language is also used in religious and party political discourse to create unity. It encourages people to know different species of the forest and protect them. Throughout life, in everyday life (cooking in 'homefire' and eating from leaf plates), in festivals, in all seasons, and in all life rituals – birth, marriage and death – people need forest produce.

Another song is a short one, and is also shouted as a slogan in rallies. In rallies people shout slogans rather than sing songs.[117]

> Forests are interlinked and joined with society
> from birth up to death we depend on forests.

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[116] '*Sin bir do lok kan, Man bir do hasa digiren, / Do se, Chita, nel nagui kui dak do! / Do se, Chita, cia nagui dadi dak do! / Cia hon ciakeda kui dak do, / Nel hon nelkeda dadi dak do. / Kui dak do perec akan, dadi dak do talse rakapen. / Do se, Chiata, lo nagui kui dak do, / Do se, Chita, bhurak nagui dadi dak do, / Sin bir lan dulak, Man bir lan nirci nirija*' (Bodding 1986: 95).

[117] *Jungle sahita samajar samprak angangi bhabe jadita. / janma tharu murtyu parjyanta jungle upare ame nirbhar.*

This is written on the wall of the meeting place of the BJFPC together with the paintings of forest produce, children, marriage and funeral pyre. These aim to strengthen the belief that without forests people cannot have a social life or society.

A forester has written the following awareness-song.[118]

The density of the Simlipal trees is attracting all
Sal, piasal and climbers fill the forest, if we don't protect it, it'll become a story
Tiger, elephant, sambar, peacock, dove, when we see their tragedy we cry
Meghasani (seat in the clouds) is proud of Bhanja-land (*Bhanja* = name of a dynasty), someday it'll become a desert
Please, come all and we'll jointly protect it, then the nature will become joyful and water will flow and the will will also come
In geography, our forest Simlipal is a line, for its development we should always think.

This song aims to encourage people to protect the Simlipal forest, which is described as especially dense and attracting. Without forest protection Simlipal will become only a story about the past, not to be experienced first-hand. If the forest is destroyed, wild animals will not be able to live, and this tragedy will make people cry. The tiger is India's national animal and the sambar Orissa's state animal. A 'seat in the clouds' mountain, the third biggest mountain in Orissa (3,923 feet), is proud of the land of the Bhanja-dynasty, but unless protected it will not be, because it will be a desert. The hill is conceived as a living subject who has feelings, such as pride. This idea has parallels with those of the *adivasis*, but it differs from them in seeing land as Bhanja-land, as land of a previous ruling-dynasty. The hill pleads all people to join forest protection that will make nature joyful, create no water shortage, and increase people's willingness to protect the forest. The reference to Bhanja implies nostalgia about the Maharaja rule. Although in geography Simlipal is only a line, it is 'our' forest and its 'development' should be our primary thought. Another government official said 'Without Simlipal this District would be a desert', and was afraid that this will be so in the future.

Next some examples of the proverbs (appealing to common-sense reasoning grounded on cultural models of experience) and slogans which FPCs use to encourage forest protection.

Mantra nuhe sutra	No mantras, but practicality.[119]
Jungle brudhire amar samrudhi	If the forest grows, we develop.

To encourage unity in forest protection, there is a saying

Moisi singha fata jujhila belaku gota.
At the time of the attack the horns of the buffalo become one, united.

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[118] *Simlipalra taru gahanbana / jie dekhinie tani jae mana*
Sal, piasal, lata kunja banani / na jagile ame hoiba kahani
Bagha, hati, sambar, mayur, kopoto / durabasta dekhi asere lotoko
Meghasani boli garbe je Bhanjabhumi / hoiboki dine sukhila marumbhumi
Asa milimisi ame rakhya kariba tahar / hasiba prakurti, jhariba jala chhuini jauthiba sita samir
Ama banabhumi, Simlipal bhugolor seta amar gar / tari chintare, unnati bichare / sarbe bhabiba chira.

[119] It is an interesting mantra.

Some examples of the slogans:

> If you cut the trees there'll be no forest / a lack of water and there'll be no cultivation.
> Because of trees, there is no fear of flood and drought.
> Trees are our life / so we all should plant trees.
> The forest is a valuable treasure / and we should take care for its growth.
> The human is so selfish that after getting all kind of benefits from us, then s/he cuts us.
> In the name of the development, the forest is destroyed. The man who has an axe on his shoulder and *katuri* (iron tool for cutting) in his hand is a murderer. The forest has been eaten by cyclists. How will his children live?

The forest protection songs and slogans refer to the forest as a friend that creates and protects life (if trees live in peace, the world will live in peace), or, as environmental economists say, 'provides services'. They aim to do this by making people aware of the benefits of the forest. Trees create flowers, leaves, fruits, food, clothing (bark, leaves), shelter, housing, water, streams, seasons and oxygen. Some stress difficulties when the forest is gone, such as a lack of firewood; others ask what the alternative to tree-felling is.

Chapter 6. Social and symbolic significance of groves and hunting

Jhahiras as connecting natural, human and cosmic spheres, or as plots of overmature trees?

A *jhahira* (*jagarthan* in Santali, *sarna* in Mundari), a sacred grove, consists of plants, trees (soft- and hardwood), land, spirits and deities.[120] *Jhahiras* and the trees in them are polyvocal and social symbols (Uchiyamada 1998: 177). Sacred groves consist of different species, and people worship different goddesses and gods at different occasions, but they are all *pujasal* (offering place; *sal* = place). Different agents conceive a *jhahira* as a stand of overmature trees, a gene bank, a water conservation area, a passion in the landscape, an ancestral land of the *junglewala*, an abode or dwelling of ancestors, an open-air place of worship, a symbol of the symbiotic relationship between the *adivasis* and forests, a sacralisation of nature, an entire ecosystem protection, or as a sustainable forest practice supporting biodiversity. These conceptions indicate different understandings of the relationships between ecology, society and cosmos. Although this discussion focuses on sacred groves among the Santal, there are many similarities with sacred groves among the *adivasis*, *dalits* and general castes. Contemporary accounts approach *jhahiras* as a religious phenomena, sacred groves as temples (Uchiyamada 1998), as indigenous examples of biodiversity conservation (Mitra and Pal 1994), as a non-dualistic expression of the nature–culture interrelationship (Apffel Marglin and Mishra 1993), as a political phenomenon expressing the peasant–state relationship (Sivaramakrishnan 1995), and as revealing the *adivasis*' (Parajuli 1996) or *junglewala*'s cosmovision model.

The interaction among the *adivasis, dalits* and general castes has been long and intense in the region. The Santal and Hindus of Bengal, Bihar and Orissa share many cultural similarities, and for Majumdar (1955: 126), north-eastern India forms one cultural area. The Santal *jagarthan* may be compared with the Hindu *panchavati* (*pancha* = five; *vati* = forest patch); the number of the trees and the sacred character of the places are similar, but there is a difference in the tree species. The worship of *Panchadevatas* – Ganesha, Rudra, Narayana, Bhaskara and Ambika – is an integral part of Hinduism, and the *adivasis* worship them in *jhahiras*. The most common trees of Hindu *panchavati* are *ashoka, banyan, bel, harida, pipal*, sometimes fruit-bearing (mango) and spice trees (Banwari 1992: 41, 50). In a Santal *jagarthan* four *sal* trees and one *mahua* tree often represent goddesses and gods. The *adivasis* and Hindus did not use to cut sacred species of trees, such as *amla, bara, bel, mahua,* mango, neem, sandalwood, *tulosi*, and fig genus (*banyan, pipal*). The felling of sacred species is believed to bring ill will to the individual and the community, and to plant them is an act of religious merit. People remove footwear before entering *jhahiras* and Hindu temples.

In both *adivasi* and Hindu worship blood sacrifice is important: the *adivasis* offer blood (drink) and meat (food), and Hindus offer blood (Majumdar 1955: 127). Although the main gods – Vishnu (Govinda, the protector of the Universe; Laxmi wife), Shiva (god of destruction and

[120] Throughout the dissertation I shall refer to *jhahiras* when I refer to several communities, and *jagarthan* when referring only to the Santal.

regeneration, also called Iswar(a) and Mahadeo; Durga wife)[121] and Brahma (the creator; the sun, *Agni*, as its visible image; Bhumi wife) – are masculine, their creative power is understood to be feminine. The energy is called *shakti* and its phenomena *prakrtiti* (nature; *prakrti* means both nature and subject in Sanskrit; feminine gender) are feminine. Without *shakti* the gods are powerless; together with *purusha* (masculine element of creation) the *shakti* creates the world (Daniélou 1985: 253-6). Both groups attach ritualistic importance to cowdung, turmeric and vermillion. Although several authors argue (Orans 1965: 43) that the flow was largely from the Hindus to the *adivasis* (for example, the Santal incorporates vocabulary of Indo-European origin), several activities are of *adivasi* origin as several contemporary researchers argue (Parkin 1992). For instance, Hindu *Chaitra Parva* (the Spring festival) resembles the Santal *Baha bonga* (flower worship). Reincarnation is part of *adivasi* and Hindu cosmovision models (Parkin 1992: 203-215; Appendix 13).

Sarna, sarana ('ours' in Santali) or *jaher dharam* (sacred grove religion, truth; *dharma* = sacred law, duty, justice, religious merit in Sanskrit) is an expression of the *adivasi* cosmovision model. These words were printed in the 1940s, when Raghunath Murmu formed an organisation called *Sarna Dharma Semlet* (Sacred Grove Religious Organization) to self-consciously promote and revitalise Santal culture as opposed to the dominant Hindu hegemony. It is currently a cultural movement, and an offshoot of the Jharkhand movement. Many *adivasis* reclaimed *Sarna Dharam* as their religion in 1951 census (Mahapatra 1986) and this behaviour continues currently (Parajuli 1996: 24) together with 'development', 'sanskritisation' (the tendency of lower castes to adopt the Sanskritic customs) and conversion to Christianity. Researchers of the Tribal and *Harijan* Research-cum-training Institute in Bhubaneswar, Mohanty and Mohanty (1998) argue that the concept *Sarna Dharam*

> originates from the common traditional religious institution of "sacred grove" found in the tribal villages (Mohanty and Mohanty, 1998).

They claim that *sarna* is an institution, and oppose the view of the Jharkhandis that it is a pan-*adivasi* religion. In *adi dharmi*, spirits are not confined to temples; they live in many locations: houses, animals, plants and mountains. Totemic clan names are derived from names of plants and animals, sometimes understood as goddesses and gods. In *adi dharmi*, the gods, the soul and nature are intertwined, and immanence and transcendence are not mutually exclusive conceptions. (Hindu and Christian beliefs stress God's transcendence over the natural world.) Lourduswamy describes *adi dharmi* as the

> the celebration of human life as part of the life of the universe (Lourduswamy 1997: 57).

Jhahiras include the vertical perception of god above and goddess below, and the horizontal perception encompasses the land, flora, fauna, and humans, who also partake in the above (sky) and the below (earth) (Mahapatra 1992: 64-5).

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[121] The Santal *Maranburu* is similar to the Hindu deity *Mahadeo*.

Worshipping, blood-sacrifices, and forest practices, such as *jhahiras*, are *junglewala*'s ways to show respect to living kinds, nature and spirits.[122] When the *adivasis* settled in villages, to have settlements and agriculture living trees had to be burned or felled. The settlers left a patch of forest, a *jhahira*, as a memorial of the first clearing and as a place where their goddesses and gods resided, and it became their place of worship (Roy 1970; Parajuli 1996: 6).[123] *Jahera* means 'a person present' (*ja* = person; *hera* = present), and is used in meetings and court. *Jhahiras* are sacred houses of goddesses and gods: certain trees and *takua* (stone; from which the name of *Thakurani*-goddess is likely to derive), sometimes *gachtala thakur* (deities under trees, such as terracotta clay figures of horses and elephants) represent them. The *adivasis* worship them to apologise and reconcile tree-felling elsewhere, and ask them to guard the village, cure diseases and protect the donor from inauspicious omens. *Jhahiras* express a feeling of guilt attached to the process of transforming living kinds to artefacts. The *adivasis* believe that goddesses and gods are essentially good, but if they are harmed, or displeased by serious faults of people, or not worshipped properly, they become angry and cause misfortune. Unless *jhahiras* are respected, the *adivasis* believe that the hate of goddesses and gods and misery follow (Mitra and Pal 1994: 22-30).[124] If any Santal sees someone cutting *jagarthan* trees, it is his or her *jati datya* (community duty) to inform the *dehuri*, who will inform the *dakua* (messenger, non-literal translation), and organise a village meeting, where a fine (chicken or goat) is imposed on the person, and an animal will be sacrificed in the *jagarthan*. The *adivasis* and Hindus believe that if they cut a god(dess)-tree, they cut the next generation, and will have no male child. The Santal 'make *bonga*' (worship *bonga*-spirits with animal sacrifices, perform rituals) to keep the major *bongas* pleased and maintain their daily care, and assist to sustain welfare and morale (Archer 1974: 31). *Bonga* means an *adivasi* goddess, god, deity, power, spirit (representing different forces of nature and residing in hills, forests, fields and rain), and worship. The Kolho-, Mundari- and Santali-speakers do not differentiate goddess and god from worshipping, whereas the Oriya-speakers do: worship is *puja*, god is *debota*, and goddess is *debi*.[125] The Santali-speakers associate *bhoj* (feast) with *bhor* (blessing).

According to the Santal cosmovision model, *bongas* inhabit three distinct kingdoms: as underground version of the upper land and its forests blends with those of the ordinary world for hunting purposes; the realm of the dead in the sky above the village, where ancestral *bongas* or *hapram* live after a funerary feast; and the village itself.[126] Village is the most significant *bonga*

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[122] An example in this respect is when the Santal try to find a place to settle, they perform the following ritual. After making sure there is water, they leave *arua chaula*, vermillion and a chicken there for the night. If no vermillion is there in the morning, in the name of *Maranburu* of the area, they will not construct a house there. If the chicken is there in the morning without fallen feathers, it is a good place to construct a house, said a Santal member of the Simlipal group. If small feathers have fallen, children will die there, and if big feathers, adults will die, and houses are not constructed (Bodding 1986: 429).

[123] According to Mundari mythology and history, each family cleared forest to have a house and field, and gradually it became their village. The Mundari elders lit up huge bonfires at four corners of their clearings, and believed that the area within these lines was sacred and protected by the boundary gods (Roy 1970).

[124] Sometimes witches urinate on the deities and then they become angry. Sometimes they leave the place, and then villagers try to find where he or she is.

[125] In Santali *Cando* (*bonga*) means god, the sun, creator and a month; *sin* (day) *cando* means the sun, and *ninda* (night) *cando* means the moon.

[126] Hindu cosmology has a parellel structure consisting of *swarga* (heaven, upper stage, where gods live), *martya* (earth, where humans, animals and demons live) and *patal* (underground, where *Basuki*-snake, god-cobra lives).

territory, where reside the *Orak'* (house), *Sima* (boundary), *Bahre* (the deity of the village outskirts), *Bir* (forest), *Buru* (mountain), *Dadi* (spring), and *Khuntut'* (tree-stump) *bongas*. Other *bongas* reside in special places: the *Abge Bongas* (subclan, family, household deity) inside each house, some in *jagarthan*, others in *manjhithan* (headman's shrine), and the *Rongo Ruji* (spirit of the forest) in a particular *teral* tree and whose 'head' is indicated by a stone in the forest.[127] Other types of *bongas* are associated with particular individuals, occasions or functions, such as the *bonga* husbands of witches, *bongas* who cause sickness, those who assist an *ojha* (*kuni* in Oriya) to heal, and Hindu festival *bongas*. Apart from the last, these *bongas*' concern is with the Santal only (Archer 1974: 26-7).

The chief Santal *bongas* are *Maranburu, Moreko-Turuiko, Jaher Era, Pargana Bonga, Gosae Era* (*gosae* = Lord) and *Manjhi Bonga*. The first five live in *jagarthan*, and are usually represented as four *sal* trees and one *mahua*, and an unworked stone for one deity is placed at the foot of each tree. Three *sal* trees in a row are meant for *Maranburu, Moreko-Turuiko* (the five-six; *mone* =5; *turui* = 6) and *Jaher Era* (the Lady of the grove; *era* = woman, wife).[128] A fourth *sal* tree standing somewhere near is for the *Pargana Bonga* (*bonga* of the area, district).[129] The *mahua* tree is reserved for *Gosae Era*, the youngest sister of *Moreko-Turuiko* (Majumdar 1955: 48). *Manjhi Bonga* (the spirit of the founder of the village) is in the *Manjhithan* situated in the village opposite the house of the *manjhi* (headman). The *Pargana Bonga* and *Manjhi Bonga* are believed to have a supervisory function over other *bongas*.

In *jhahiras* the plants are left to grow, and there are various species and many old trees. Deities of various elements of nature – the sun, rain and fire – reside in *jhahiras*.[130]

> If there is no *sal* tree, there is no *jaherthan*. [...] Plantation is not permitted in the *jaherthan* (a Santal member of the Simlipal group).

Jhahiras are associated with fertility and creation, since *Jaher Era* (Santali) or *Harachandi* (Oriya) resides there. The general castes, *dalits* and *adivasis* celebrate her menstruation yearly in the *Raja* festival (Chapter 9). The Santal celebrate three annual *bongas* in the *jagarthan*: the *Magh* in January, including a bow-and-arrow shooting competition and singing hunting songs, the *Baha* in March, and the *Ma mane* in November. The *dehuri* offers to the standing deities and ancestors believed to dwell in the *jagarthan*. Next, I examine the *Ma mane* of Burupal village in more detail.

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[127] The Santal worship *Rongo Ruji* to succeed in hunting. She is obsessed with sex, and people entertain her with sex-related songs and stories (Troisi 1979). Also *Lita*, who resides in the *jaherthan*, is important in hunting rites. The Santali-speakers refer to the rainbow as the 'bow of *Lita*' (Orans 1965: 7). Archer (1974: 28) argues that under the pseudonym of *Lita*, *Maranburu* encouraged the first Santal to have *handia* and sex.

[128] *Moreko-Turuiko* is addressed in plural, although it has a single entity, younger brother. *Moreko-Turuiko* presides over the welfare of the village, rains, crops and epidemics. The Santal believe *Moreko-Turuiko* to be the same as *Pancha Pandav* (five brothers of the *Mahabharata*), who were married to the same woman. *Jaher Era* is the sister or mother of *Moreko-Turuiko*, and the consort of *Maranburu*. She presides over good crops, health and village welfare.

[129] *Pargana Bonga* is believed to have power over witches, and is propitiated when there is a serious illness in the village.

[130] Gadgil and Guha (1995*a*: 78-9) argue that with river-valley civilisations, fire to clear the forest and water to nourish agricultural crops, became the most valuable forces of nature, and *Agni* and *Varuna* became the major deities.

The *Ma mane bonga* in the *jagarthan*

Once a year the Santal do the *Ma mane bonga* (S) or *Sarali puja* (O) on *Karttika purnima* (*purnima* = full moon day, 14 November 1997). Because *jagarthan*-trees are not in their native place, the Santal make blood-sacrifices and offer meat of their domestic animals (fowl) in the *jagarthan*, and then the forest will give some meat when they hunt. There is a reciprocal forest–people relationship: the forest is offered food (domestic animals) and it gives food (wild animals). All living kinds – forests, wild animals and humans – are under *Maranburu*. The Santal say that *Maranburu*, a god of community and nature, the *bonga* of the Great Mountain, and the guiding spirit, is the most powerful god. Culshaw (1949: 80) refers to *Maranburu* as 'the national spirit of the Santals'. The Santal associate him with benevolent and malevolent spirits, and worship him with the sacrifice of a white hen or goat and a *handia* libation. They propitiate *Maranburu* during all festivals and lifecrises. By offering to spirits the Santal give rather than let goddesses and gods to take when they are hungry and bloodthirsty. The Santal 'feed' (look after) the *bongas*, and they 'feed' the Santal (Culshaw 1949: 92).

In Burupal, first only the *dehuri* cleans the places of worshipping in the *jagarthan*. Then around 9 o'clock in the morning Santal men and boys come and the offering unit, usually a household, brings a *kukuda* (fowl). Different goddesses and gods are offered either chicken, cock or hen of specific colour. There are six places of worship in the *Ma mane*. In all places the *dehuri* on his knees makes *juhar* (greeting with hands with palms together) to each standing deity, and touches the trunk above the ground to show respect to them.[131] In each place the *dehuri* offers *boli* (death), which are sacrifices, offerings and libations (gifts to be enjoyed), essences such as *arua chaula*, vermillion, blood, meat and *handia*, to different *bongas*. In each place there are three *sal* leaf cups, one contains vermillion, others *arua chaula* powder, and fenugreek. *Tulosi* leaves in a silver *nota* (small waterpot) make the water sacred.[132] While male household members utter incantations the *dehuri* worships and makes blood-sacrifices to goddesses and gods. [133] The *dehuri* makes circles with *arua chaula* to demarcate an area for the spirits. If the goddess or god is present and receiving, the offering will eat *arua chaula* and the neck is cut. If there is some problem with the goddess or god, the offered animals will not eat. Offered animals know, if the goddess or god has come, is fine and ready to 'take the blood'. Some incantations are like direct calling. While the *dehuri* worships the Santal men say together to each goddess and god:

> You first see my village, cattle, paddy and lastly the whole society should be in a good condition. [...] You take *boli*. We voluntarily give you our *boli*. You protect us all: people,

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[131] Also in everyday life, gestures, such as *juhar*, bowing and touching the feet of another, are expressions of respect. Younger persons show respect to their seniors, and women show respect to men. When a Santal son meets his father 'he bows low, touches his right elbow with his left hand, raises his fist to the level of his forehead and slightly pauses. His father receives the greeting by touching his right arm loosely with his left hand, moving the right fist downwards and opening his hand' (Archer 1974: 49). A Santal daughter greets her mother by bowing low and touching the earth.

[132] *Tulosi* (according to Vaishnavism) helps to transform the mundane food substance into a sacred code, so that the deity can 'interact' with it to the devotee's satisfaction (Khare 1976*a*: 102).

[133] Incantations (sometimes referred as mantras) are a particular combination of words which when recited are believed to have a powerful magical effect, energising and empowering the person who chants them (Appendix 12).

> cattle, all should be healthy and financially well. [...] We offer one *beko* (neck), all necks will be protected.

A neck represents a living kind, rather than merely a human being, and the Santal men ask each goddess and god to take one neck for all necks.

> Living kinds : death :: goddess or god : neck
> Neck : death :: living kinds : goddess or god
>
> We (living kinds) are to death as goddess or god is to neck
> A neck is to death as living kinds are to goddess or god

In five places after the worshipping and incantations, the *dehuri* cuts the neck with *tangia* (sacrificial axe; ritual battleaxe), which is also used for hunting and cutting meat. He holds the axe on the ground with the blade pointing upwards with his legs, and presses the neck with both hands upon the upturned edge to cut the head from the body. He keeps the headless fowl in his hands a little while to let the blood flow on *arua chaula*-plate of the goddess or god, and then places the head of the offering on it. Then the boys hold the headless dying fowl to the ground until they stop moving their legs. The sixth place of worship is for *Sima Bonga*, who is a powerful village boundary goddess, and will not eat blood killed with iron and the neck of the offered animal is cut with bare hands. The Santal fear it, because it can cause snakes and leopards to attack men in the fields (Archer 1974: 27). Overall, trees in *jagarthans* are wooden containers of spirits, which at the time of rituals are fellow conversants.

After worshipping and blood-sacrifices, the participants divide the sacrificed animals. The Santal believe that the head is the leader of the body (*Munda dehara mukhia*), and the head is the most valued part of the sacrificial meat. Therefore, *dehuri*, the spiritual leader of the Santal, eats heads, and male members of the offering unit eat the bodies. The *dehuri* may share his food with two men who have assisted him. Restrictions on eating the head seem to be connected with its macrocosmic association with heaven. Others cook for the *dehuri* and his assistants, and prepare their food using a different cooking method called *potua* (smoking): food is wrapped in *sal* leaves and cooked on fire. It is cooked with *arua chaula*, salt and turmeric for half an hour. The participants (including small boys) pluck the fowl and use *tangia* to cut the meat into pieces. Within a short time the offerings are cooked on fires utilising the fallen twigs and leaves from the *jagarthan* to make meat curry. After the food is cooked, all plates are brought near the small temporary canopy roof of the first offering place to count how many are involved in this *bonga*. Then the *dehuri* calls for goddesses and gods of the *jagarthan* and offers some food. Then the *dehuri* and two old men eat from their *sal* leaf plates next to the canopy roof and stones representing the spirits. Other eat nearby.[134] After the meal, Santal men wash their hands, and they believe that goddesses and gods wash their hands with this water. After eating the participants discuss the four households that did not attend the *bonga* that year. Some men play a

[134] They used to do communal cooking, but there had been some misuse, and in 1997 each offering unit cooked its food separately. For instance, if two households offered a chicken, they divide it into two. In Burupal the *Ma mane* is the biggest Santal *bonga* in terms of offerings, and participating households contributed Rs. 15 and 50 fowl were sacrificed in 1997.

kendra (one string fiddle), and sing. Then the men go home. Later in the afternoon the *dehuri* offers *arua chaula* to goddesses and gods, and men drink *handia* and some play *kendras* and flutes in the *jagarthan*.

These sacrifices and their sharing express the belief in the interrelatedness among natural, human and cosmic spheres. In this interrelatedness there is simultaneously the unity and separateness that order identity. On the one hand, the sharing of food indicates the unity of nature, humans and spirits. On the other hand, gender and leader–follower divisions reflect social divisions. The eating of different kinds of food indicates separateness: raw, uncooked blood is for goddesses and gods, heads cooked with *potua*-method are for the *dehuri* and his two main assistants, and the bodies of the fowl as boiled meat curry is for male participants. (See Lévi-Strauss's [1965; 1986] triangle of recipes within the culinary triangle, and the raw–cooked–rotten discussion.) Ritual proceedings from cleaning, greeting (*juhar*), laying an offering, invocation, neck-cutting, sacrificing blood, cooking, eating, handwashing, and discussion of the four households which did not take part in the *bonga* indicate the Santal view of the conjunction of the spheres. In another occasion a Santal man, who was critical of the *bongas* said

> There are gods, but these *bongas* are to organise people (a 32-year-old Santal man, Burupal).[135]

All *bongas* are for community development, and attempt to maintain a harmonious relationship among living kinds of interrelated spheres. The Santal worship and make blood-sacrifices to have a good year: the blessings of the spirits make abundant crops and fertility in plants, animals and humans possible. Apart from these big *bonga*, the Santal 'make *bonga*' on a smaller scale monthly.

> We offer monthly to *sarjam dare* [*sal* tree]. She's our goddess (an old Santal man, Burupal).

The word *dare*, meaning living tree, strength or power, is often used in the sense of 'can' or 'to be able': *ban dareaka* (I am not strong for it; I cannot, non-literal translation; Macphail 1983: 40). When people are not strong enough, they make *dāre* (sacrifice).

To understand a ritual practice as 'thought and action' (Tambiah 1985) one needs to reconstitute its internal logic and revive its practical necessity. Beliefs in ritual, magic and witchcraft co-exist with empirical knowledge of cause and effect. The Santal and Hindu theory of sacrifice creating the cosmos persists, because it 'creates' the world in a sense that is different from that known in the laboratory and its causal acts (Tambiah 1985: 84). Tambiah (1985: 77-84) refuses to view magic as an attempt at science that failed, or as a 'closed' system of thought.

Lévi-Strauss (1969) relates the structure of symbolic system to social structures. For Bourdieu (1990: 95), magical or religious actions are 'this-worldly (*diesseitig*), as Weber puts it'; they are oriented towards the most practical and vital ends to ensure the success of production and

[135] He said that other Santals disagree with his view, and if they knew what he thinks, 'they'll hit [...] we'll be outcasted'.

reproduction – survival. For Bourdieu, remaining in the cage of the nature–culture dichotomy, acts of sacrilegious violence, such as the sacrifice of a chicken, are acts of

> denied violence intended to deny the violence contained in imposing the human order on fertile but wild nature (1990: 237).

The Santal rituals do not aim to 'impose the human order' (male order because women are excluded to sacrifice) on 'wild nature'; their rituals seek to have the mutualism of the physiological level of birth, procreation, sustenance and death, the human level of everyday life, and the ritual-cosmological level of spirits. Sacrifice is a meal of alliance, a collective pledge of the group, and expresses a feeling of guilt attached to the process of transforming living kinds to artefacts.

Jhahiras: a model of conservation or a place of fear?

There are controversial accounts of sacred groves. For Buchanan-Hamilton (1807), the British traveller, the system of sacred groves was a 'contrivance' of the people to prevent the colonial government from claiming their property (Gadgil and Chandran 1992: 186). Brandis (quoted in Guha 1996: 89-90) referred to sacred groves as the 'traditional system of forest preservation' and 'illustrations of indigenous Indian forestry', which are 'most carefully protected' in many districts. According to Sivaramakrishnan (1995), although colonial Forest Acts tried to maintain *jhahiras* as a justification for creating reserved and protected forests, their aim was to keep the forest out of the *junglewala*'s reach and have pristine wilderness untouched by humans. The Northern model of the wildlife reserve has been transplanted to the South, whereby the *junglewala* have faced eviction from their homes, and the forest and wildlife laws have transformed their forest practices into criminal activities. Nevertheless, in the environmental narratives of rural India *jhahiras* are examples of indigenous conservation practices (Gadgil and Chandran 1992).

Uchiyamada (1998) examines the Untouchable's fear of sacred groves in the Alleppey District in Kerala, South India. He investigates sacred groves as temples, and shows that the same notion of regenerative power underlies Hindu beliefs and environmentalist views on groves. Uchiyamada (1998: 178) argues that trees in sacred grove *(kaavu)* are for the Untouchables 'sacred' *(sudham)* and 'fearful' *(bhayam)* as well as 'life-force' *(shakti)* and 'fault' *(doosham)*. With groves, sacred and fearful are not exclusive terms, and they are described as 'life-force' or 'fault'. A grove is a 'depository of dangerous fertility'. Uchiyamada argues that the vitality of trees originates from the 'supernatural' life-force of ghosts, the wandering spirits of the recently dead. When the dead spirits are prevented from transforming, they give rise to fertile, but dangerous sacred groves. Groves are situated on the outside, and separated from the Hindu temples. For the Untouchables in Nagarajanadu, groves are on their ancestral land as their lineage temples, but for the higher-caste Hindus, these groves cannot be temples (Uchiyamada 1998: 181).

Dumont (1959: 83) claims that 'the temple reflects the society in a simplified form'. Uchiyamada (1998: 190) observes that although this may be true of the Nayar lineage temples, it is not

in the Pulaya *kaavu,* where wandering deities and spirits go to different *kaavus* to 'sit', 'stand', 'rest', or 'eat and drink'. Unstructured *kaavus* do not reflect the hegemonic social order. People believe that a sacred grove develops naturally or independently of human will. 'It is *shakti* that grows a *kaavu*' (Uchiyamada 1998: 185). Although the lifespan of the trees is variable, new trees replace dying ones, and without disturbance a grove does not disappear. Uchiyamada (1998: 181, 194) suggests that groves exist on a different time-scale and belong to 'a non-unilinear, cosmogonic time, and that they constitute an opening on to a cosmogonic space'. Uchiyamada (1998: 181) claims that '[d]espite "modernisation" [...] people still believe in the life-force of sacred groves', and that it is more powerful today than it was a decade ago. But perhaps it is more of a question of because of 'modernisation', since animism, New Age Religions and neo-paganism are also popular in the West.

Mitra and Pahl (1994) see *jhahiras* as real sanctuaries of biodiversity that exemplify ecological understanding. Social fencing has encouraged forest protection for centuries as serving the long-term interests of the group and against the short-term interest of individuals. Mitra and Pahl suggest new policies on sacred groves: religious beliefs should be encouraged and reinforced through government legislation. For Nehru, a dam was 'the temple of modern India', but some Jharkhandis and NGOs argue that the government should recognise *jhahiras* as temples, and make budgetary allocation for the maintenance and rituals to revive this cultural belief, and the remaining ones could be extended. Apffel Marglin and Mishra (1993: 206) argue that *jhahiras*, and the regenerating principle of the communities and forests, can provide a model for the world.

For Apffel Marglin and Mishra (1993), based on their fieldwork in coastal Orissa, sacred grove is not just a mini-nature preserve or a wilderness park, but a locus and a sign of the regeneration of (animal and human) body, land and community. 'It stands for the integration of the human community in nature' (Apffel Marglin and Mishra 1993: 198). A *jhahira* is the permanent material sign of the periodic processes (earth's seasons, women's menses) of regeneration. The goddess residing in the *jhahira* is a constant reminder that the body is embedded in the land, and the community in nature, and they are both integrated into a single process of life. *Jhahiras* indicate 'the ethos of co-operation with nature for increased production' (Apffel Marglin and Mishra 1993: 206). The *junglewala* preserve *jhahiras* according to their cosmovision model, because *jhahiras* safeguard their continued existence and livelihoods, not because they oppose productive activities.

Sivaramakrishnan (1995: 30) argues that the

> environmental movement has sought to naturalize sacred groves as an icon of indigenous conservation, placing them outside politics

to make them a more significant political symbol of the peasant–state relationship. The environmental movement has overlooked the intricate micropolitics of people's respect and fear of sacred groves and resident gods' fury, and changes in the location of the groves. Nevertheless, this does not alter the position of *jhahiras* as a keystone of the *junglewala*'s cosmovision model.

Parajuli emphasises the differences in environmentalism: *jhahiras* as agrarian environmentalism is

> different from both the progressive conservationism which places human needs above nature and deep ecology which subordinates humans to nature (1996: 25).

For the *junglewala*, a *jhahira* is intrinsically related to the regeneration of body, land and community. *Jhahiras* are not merely patches of forest, but *junglewala*'s way of defining who they are and part of their identity. *Jhahiras* have remained untouched because the *junglewala* respect and fear them (setting limits to their behaviour with the forest). The foresters do not fear *jhahiras*, but are forbidden to cut them by law. Some environmentalists fear the consequences of unlimited use of natural resources and unsustainable practices and development that cause pollution and acid rain. What the *junglewala*, foresters and environmentalists have in common is that they all conceive limits in forest use, be it conscious or unconscious, fear of spirits, law and/or fear of the consequences.

For the foresters, *jhahiras* are places of mature and overmature trees and maintained, because the *junglewala* 'are afraid to touch them'. The foresters regard beliefs in *jhahiras* as *andha biswas* (blind beliefs), but they leave *jhahiras* untouched. Already in 1911 the *Mourbhanj Forest Manual* (1911: 45; Article 153) prohibits the felling of trees in *jhahiras*, but allows trees fallen to the ground to be removed after paying the prescribed royalty to an officer above the rank of a ranger. The *Manual* states that a *jhahira* is a consecrated place of worship and all trees composing it are regarded sacred. Laeequiddin (1937: 129) in the *Census of Mayurbhanj State* writes that *jhahiras* offer shade and shelter to deities and their devotees. Jee's working plan states,

> 'Jahira' is a grove of trees left unmolested by the villagers, rather held in awe because their deity lives in it. The deity is worshipped as it is responsible for the good or evil of the village. The trees in the Jahira sometimes indicate the type and quality of the forests that was previously existing there and which is not the village site. From the age of the trees one can guess the age of the village (Jee 1957: 47).

Although Jee treated *jhahiras* as a living history of the past vegetation, up to now there has been only little research done on the flora and fauna of *jhahiras*. We did vegetational monitoring in three places of the protected forest patch, and of social forestry plantation (three patches of 10 x 10, 5 x 5, and 1 x 1 metre) and in the *jhahira* of all Burupalians. The most common species in the protected patch (50 hectares) of Burupal is *sal*. For example, in a patch of 10 metres x 10 metres the total number of tree-like species is 46, and the quantities of the species are the following: one *asan*, one *atundi*, two *bhalia*, two *bhodra*, four *char*, one *dhaw*, one *kendu*, two *piasal*, 30 *sal* and one stump.

In the social forestry plantation, the first patch (10 x 10 m) was a *jacunda* patch, which had 16 *jacunda* (average diameter at breast height, DBH, was 24 cm), and four *acacia* (average DBH was 30 cm, two cuts). They were between seven and 13 metres long. A second patch had 20 *acacia*, 17 *jacunda* and one *sisoo* tree. A third patch was an *acacia* patch with 21 *acacia* and two *jacunda*. Many of these trees had several branches, which is a sign of having been cut, and their DBHs are remarkably

lower than those in the *jhahira* or the protected forest. The first patch had 9 cut-off-branches, the second had 10, and the third patch had 12. Some branches had been cut off recently.

In the *jhahira* the total number of tree species was 113 (including two *siali* climbers) consisting of 22 species.[136] There were only four *sal* trees in this *jhahira*. The widest DBH had an *asan* tree (134 cm) and the least had *polas* (10 cm). The average DBH for all trees was 51 centimeters. The *jhahira* had the richest biodiversity and the widest age-range of the trees compared to the social forestry plantation and protected natural forest patch, supporting the view that *jhahiras* are *junglewala*'s conservation park of biodiversity.

The number and the area of sacred groves has decreased lately due to several causes: developmental activities, increase in commercial forestry, a lack of cultivation land due to population growth, decreasing respect of traditional values, and changes in forest property relations.[137] Sivaramakrishnan (1998: 276, 291) claims that most groves do not have old growth near Bandghora in West Bengal. The locations of groves may have changed as settlements or the demarcation of village boundaries shifted, or were cleared for cultivation. The larger sites of worship have been more permanent, and the smaller ones have moved more. Nevertheless, *jhahiras* have maintained better than other forests. Many villages have *jhahiras*, although their previous village forests may be currently without trees. Young *junglewala* were and are taught to respect living kinds through *jhahiras*. There are several *jhahiras* in the case-study villages. Burupal has two *jhahiras*: a *jhahira* of all villagers, and a *jagarthan* of the Santal. They are outside the village in the middle of paddy fields, 800 metres from each other. A Santal man said that his religion is

> *Sarana* according to *jaherthan*. But now in our government papers we're Hindus. In our mind, no written record. Our forefathers aren't permanent residents. They came from China, Punjab, Santal *Pargana*, and here was a thick forest. Forefathers used this place [*Hudi* hamlet] as a hunting place first, and later came and settled here (a 32-year-old Santal man, Burupal).

The Mopanians have three *jhahiras* inside the forest that they share with two neighbouring revenue villages, which many residents perceive as three hamlets of the same village. *Ghodagada* is an old *jhahira*, and in the new *jhahira* there are *kusum* xand *asan* trees and a big 100-year-old *siali* cord. The closest Shiva temple is three kilometres from Burupal and two kilometres from Mopani. After *jhahiras* I discuss a related forest practice, the *akhand sikar*.

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[136] There were following quantities of species and their diameter at breast heights and their averages in parenthesis: 1 *ancle* (16 cm); 38 *asan* ranging from 27 to 134 cm, the average being 47 cm); 7 *banahata* (21-113, average 54 cm); 9 *bel* (39-136, average 82 cm); 1 *churchu* (16 cm); 23 *dhaw* (21-109 cm, average 60 cm); 2 *doka* (42, 44 cm; average 43 cm); 2 *gonei* (76, 92 cm; average 84 cm); 1 *karanjia* (42 cm); 7 *kendu* (23-153 cm, average 79 cm); 2 *kusum* (173, 193 cm, average 183 cm); 1 *mahul* (55 cm); 3 *merlei* (37-100; average 62 cm); 3 *polas* (10-42, average 26 cm); 4 *sal* (61-98, average 71 cm); 2 *siali* (three branches 18, 26, 32; average 25 cm); 5 *siris* (38-123, average 85 cm); 1 *tarob* 48 cm and one plant (40 cm), the name of which the two Santal boys (11 and 13 years), who were our experts in this vegetational monitoring did not know.

[137] According to the PRAVA-report (1994: 18) of the Professional Assistance for Voluntary Action NGO, the Subarnarekha Irrigation Project has already engulfed 62 *jhahiras*. The youth leader (Rajendra Murmu) of the *Subarnarekha Budi Sangharsa Smiti*, a local forum opposing this project, died of unknown causes. Babri Masjid demolition made an international hue and cry, while the government policies demolish many *jhahiras*. A Masjid is to the Muslims what a *jaherthan* is to the Santal.

Akhand sikar: an *adivasi* ritual group hunting or mass poaching?

The *akhand sikar* (*akhand* = continuous; *sikar* = to hunt, hunting; *sikari* = hunter) is a controversial practice in Mayurbhanj. For different agents, it represents many activities: hunting, a relic of the 'royal game hunting', poaching, a criminal activity, a forest and wildlife practice, a traditional right, 'our social, traditional custom', a practice interrelated to *jhahiras*, and mutualism of living kinds among spheres. The *akhand sikar* also shows counterpositions between different dimensions of forest practices: ecological, environmental, economic, institutional, political, legal, historical, sociocultural and cosmological. After a brief history of hunting I examine the *adivasis*' and foresters' views on the *akhand sikar*, and why the former consider it as an *adivasi* ritual group hunting, and the latter as mass poaching and a criminal activity.

The history of hunting: from wild game to poaching

If the history of hunting goes back 10,000 years, it shows a transition from an activity 'primitive' people to 'civilised' people. If the history of hunting goes back a hundred years, it shows a transition from hunters to poachers, and from wild game to wildlife with animal rights. The origin of human civilisation is considered to start with hunting and farming. The capacities to hunt and farm are considered as signs of the human superiority (culture) over the rest of nature. Nowadays, many foresters and environmentalists conceive the *akhand sikar* as a custom of 'primitive people'. For the *adivasis*, the *akhand sikar* does not refer to evolution and elevation, since humans are conceived to be part of nature. It indicates reciprocity among people and spirits: people offer meat to goddesses and gods in the hope that they will bless people with meat, forest produce, agricultural crops and children. The *akhand sikar* is not merely hunting, it indicates a reciprocal relationship among living kinds of natural, human and cosmic spheres.

Hunting involves different types of animals, meat, techniques, hunters, hunting purposes, and social behaviour. Some animals are protected, others shunned, others trapped, hunted or destroyed, and others sacrificed. These categories reveal a taxonomy of the animal world, a cultural code that indicates levels of edibility and social distancing (Tambiah 1969; Leach 1972). The *adivasis* and foresters conceive hunting differently, and misunderstand each other. The colonial game laws made wildlife the property of the state. They depict subsistence and ritual hunting as poaching. In India (Rangarajan 1996: 138-97; and in Malawi, Morris 1996*a*: 79) subsistence hunting was described as wasteful, barbaric and irrational, and as the primary factor in the decline of the larger mammals, although most forest-dwellers hunt small animals.

Colonial and current efforts to regulate access to fauna and reserved forests, and foresters trained to see their forest practices superior to those of the *junglewala* and the *adivasis*, were and are related to the self-interest of the rulers in a competition for the same resources. In Britain and in India a privileged access to game affirmed a person's status as part of the elite (Rangarajan 1996: 139, 146, 154). Hunting was part of the lifestyle of the rulers of princely states, *zamindars* (big landowners) and colonial officials. For cultivators, although wild animals destroyed crops or endangered lives, hunting

was an additional source of food and income. The British labelled low caste and tribal groups as 'hunters', since they relied on hunting more than other inhabitants. The rulers overlooked *adivasi* practices, which restricted the quantities of hunting, such as gender and seasonal restrictions, and the prohibition to kill totem animals (Rangarajan 1996: 140, 167). British officials aimed to eliminate carnivores, and hunted for sport. With the British rule hunting increased in India. Rangarajan (1996: 140) considers the possible decrease or increase of wildlife as an indicator of the kinds of ecological changes in this period. Jee (1957: 178) argues that wildlife decreased after the end of the Maharaja rule, and the merger with Orissa. The Indian independence (15 August 1947) and the merger of Mayurbhanj with Orissa (1 January 1949) happened almost simultaneously, so perhaps a reason for this difference in views is that Rangarajan discusses the topic in the national framework, and Jee in the regional framework. But they clearly have different views on why hunting increased. Rangarajan argues that the British hunted more, and bear the responsibility for the decrease of wildlife, whereas Jee claims that cultivators and the *adivasis* bear this responsibility. Jee claims that hunting increased to grow more food, so that wild animals will not destroy the crops, and because there were more *adivasis* who hunted. In addition to other hunting parties,

> *akhand paraidhi* [... was revived and] aboriginals, in batches ranging from 20 to 200 enter into the various parts of the hills. Kols from Singhbhum also participate in the tribal hunt [during the week following *Pana Sankranti*] (Jee 1957: 179).

Rangarajan (1996: 158) argues that the evolution of forest laws (from the Forest Act of 1878 onwards) was bound with the evolution of hunting for sport. Hunting continued to be permissible for those who gained prior rights to the game, and they were officials with superior firearms. Officials regarded *junglewala*'s hunting methods using locally available materials to trap or snare animals and birds as cruel. With these methods it took longer time to kill the animals than with firearms, which were prohibited from the *junglewala* partly in the fear of a rebellion. Different groups of hunters had different set of priorities. The *junglewala* hunted more small animals, whereas the Indian and British rulers hunted big animals. British officials favoured herbivores and campaigned to exterminate predatory carnivores.[138] The *junglewala* did not share the British antipathy to wild dogs or other carnivores, and cultivators tried to protect fields from wild herbivores (Rangarajan 1996: 172, 180, 176).

> Unlike British officials, tribals saw the animal not as a destroyer of game, but as a provider of meat (Rangarajan 1996: 175).

Colonial hunting was often a burden on the *junglewala*, since their own access to wild animals was restricted by law, and still they had to give their labour and time to the hunting of the sportsmen. At the same time the areas under the control of the Forest Department became larger. With

[138] The British came to India with a history of systematic campaigns to exterminate carnivores in Britain. The animal world was divided into wild and tame creatures, and protected and non-protected wild animals. By 1500 wolves were eliminated in England (Thomas 1983: 273; Rangarajan 1996: 144).

the Act of 1878, the definition of forest produce was widened to include hides, horns, tusks and skins (Rangarajan 1996: 180, 158-9). Wildlife laws made hunting without a licence poaching and illegal. Around 1900 the agenda changed towards a global interest in the preservation of wildlife after the mass killings of the American bison. Hence, the programmes to exterminate carnivores changed into saving wildlife from 'poachers' (Rangarajan 1996: 193-5). The changes in the terms used for animals living in the forest (beast, game, wild animal, wildlife) and killing an animal (sacrifice, hunting, royal game hunting, forest sport, poaching) express changes in perceiving wild animals and killing them.

In 1976 wildlife protection found its place in the Constitution and imposed a duty on its citizens to do so. India signed the Convention on International Trade in Endangered Species of Wild Fauna and Flora in 1976, and the Convention on Biological Diversity in 1994. India implements a Biosphere Reserve Programme to conserve ecosystems. About 5 per cent of the total geographical area of country has been marked for extensive *in situ* conservation of habitats and eco-systems through 80 National Parks and 44 Wildlife Sanctuaries. The Wildlife Protection Act, 1972 and its amendments of 1991 provide the legal framework for the conservation of wild animals, birds and specified, endangered plants and biodiversity. The attitudes towards wild animals, wildlife and hunting have changed, and definitions, restrictions and laws regarding them came to include more species and activities.

The foresters' and *adivasis*' views on the *akhand sikar*

The foresters defined the *akhand sikar* as a 'type of tribal cult', 'mass hunting in the forest' and 'non-interrupted hunting'. According to a retired forester, the *akhand sikar* is 'traditional poaching'. How is it traditional? The *adivasis* brought animals in one place for the Maharaja's shooting party to shoot and bring revenue to the British. *Hati khenda* (elephant driving) started by locating the elephants, and watchers, who were specific *adivasi* residents of the area, surrounded them, and then elephants were attracted into a fortified enclosure with paddy and banana plants. After the herd entered a strong door with nails sticking out was dropped to close it. Some old stockades can be found in different parts of Simlipal. The catching of elephants was a favourite sport of princes, and a festivity to which the elite was invited for many centuries. According to the book-keeping, 200 elephants were caught in 1870-71, and 15 in 1937-38 (Senapati and Sahu 1967: 28-9). According to an old Kharia man of Budhikhamari village, whose father was involved in these hunts, the Maharaja was an outsider and he selected community leaders as his 'friends' to be accepted, and control the kingdom. These formal 'friends' were called upon only for hunting. Many *junglewala* and foresters were nostalgic about the Maharaja rule as a time of order and forest and wildlife abundance. Several foresters expressed their disillusionment with democracy, and saw democracy as an obstacle to forest and wildlife protection and management. Foresters said,

> Nowadays too a democratic country to punish somebody.
> In democracy no one protects the forest.

A retired forester said that now the *akhand sikar* goes on as 'forest sport', and he saw it as a 'pure control problem'.

In the current working plan, Bakhla (1996: 54-9) discusses the *akhand sikar* in the context of things causing injury to flora and fauna (together with fire, frost, drought, insects, climbers and grazing).

> Occasionally in the name of "Akhand Sikar" the tribals take to poaching in larger scale of killing recklessly any animals sighted by them, by bows and arrows. The number of animals killed is much more than the list of animals seized during *akhand sikar*, as detected by the patrolling teams [of forest, police and revenue officials] (Bakhla 1996: 59).

The ideal time for the *akhand sikar* is in March-April, and generally it is observed from April 13 onwards, but the *adivasis* started it in January in 1996, and in December in 1997. A forester said that nowadays the *akhand sikar* goes on throughout the year, which implies that any hunting without a licence is *akhand sikar* for him. Das in a previous working plan includes the problem of setting fire during this 'custom':

> "*Akhand sikar*" is a social custom amongst these hill tribes which is held in April. These people deliberately set fire to the forest for communal large-scale poaching (Das 1981: 35).

The Forest Department organises meetings to prevent the *akhand sikar*. The Forest Department invites *dehuris* and village chiefs to these meetings aiming to use the influence of village spiritual and secular leaders to convert the *adivasis* from the *akhand sikar*.

> Whatever the village chiefs and priests say, people do it (a forester said).

These are formal meetings that few women attend and where only men speak, and often foresters do not understand all speeches, since they may not share a common language. The Forest Department may reward some people with certificates and loin cloths in these meetings. Several slogans are repeated, such as

> The *akhand sikar* is a blind belief. Stop the killing of wildlife.

The following extract is from a discussion a forester and I had:

> Every year we spend a lot of money on *akhand sikar*. [...] No one asks what is the achievement. Poaching goes on and we move on the road (a forester said).
>
> Who decides how much money is given to the prevention of the *akhand sikar*? (I asked)
>
> It's better not to ask that. [...] What are the stores or items with us that we don't know (a forester said).

There are two occasions and two forest pilgrimage places in Simlipal, where a large number of people gather yearly. During the *Makar Sankranti* (*sankranti* = end of month) *puja* (14 January) about 20,000

people make a daily visit to Devkund, which is in the buffer area. Some *adivasis* hunt also during the *Makar-puja*. During the *akhand sikar* (15 April) people go to Athardeuli, which is in the core area. Most participants stay ten days in the forest, they go by foot for four to five days and then come back. They set fires where they camp during the dry season, when

> the presence of outsiders is highly unwanted. [...] While returning home, they poach. No one will dare to face them (a forester said).

The foresters aim to exclude these places from the core area, because people go 'illegally' to the core area, which is a

> very bad antithesis to the management. [... Nevertheless,] you cannot ban them, they will not obey (a forester said).

It is impossible to know who is a religious fellow, and who is a smuggler. A forester said that nowadays everything is used for medicinal purposes, even tiger-bone ashes.

> How do you know which ashes? [...] How you seize it? It's beyond our capacity (a forester said).

Before 1970s there was little opposition to the *akhand sikar*, and the opposition has not brought fruitful results. To the question 'Is it necessary?', the *adivasis* are likely to answer 'It's our traditional worship', a forester said.

> According to an Oriyan newspaper, *Sambad*:
>
> local *adivasis* have become mad for the *akhand sikar* and are not in the mood to obey any rule in the forest. In the night, the *adivasis* go to Simlipal with bows, arrows and guns made in India. They are burning the forest and poach all animals except elephants (*Sambad*, 13 December 1997).

During the night there were too few foresters, so they went to the place the following day and 'seized two guns, but were not morally able to arrest anyone'. The forest is burning and the foresters feel threatened, so the Chief Wildlife Warden, Pattanaik, has requested the government to send the Border Security Force to oppose these activities. Some foresters link the prevention of the *akhand sikar* with the eviction of the residents from the core area of Simlipal, others do not.

As an example of *adivasi* views, I investigate the Santal views on the *akhand sikar*, which show its importance in their society. Santal boys start playing with bows and arrows and practice their hunting skills very young. Boys want to grow up as good hunters. During the *Sohrae*-festival in January boys and men shoot at the plantain post, and the 'field priest' propitiates the outskirts' *bongas*. The *akhand sikar* is a male communal activity, where the young unmarried *adivasi* men are the most involved group. Bachelors aim to prove their strength and courage to the probable brides. Older men lead the young. Unless Santal men have a good reason, if they do not participate, they are called 'women' (Bodding 1986: 482). Participating in the *akhand sikar* is part of the Santal male identity.

During the *akhand sikar*, women have to observe certain prohibitions, which are similar to those of mourners (no vermillion; Culshaw 1949: 33). Women conceive a good hunter to be a good provider of food, livelihood and future hunters.

At the time of the Hindu *Makar-puja* (14 January) the Santal men perform *Magh*, the sun worship feast, which is a hunting ritual, as well as *asti*, back-to-the-river-ritual for the deceased during the year.[139] For the Santal, the purpose of *Magh* is to remember the hunting days, and the help of the *bongas* and ancestors in providing food and welfare to the households and maintaining patrilineal unity of the Santal community (Gautam 1977: 189). During this *bonga* the Santal worship, but do not make animal sacrifices. The Santal perform *Magh* before the *akhand sikar* to protect them in the forest and ensure good hunting. They believe that if anyone hunts between *Magh* and *Badam*, goddesses and gods will send wild animals to disturb people and domestic animals. Before *Magh* the Santal should not collect forest produce.

Traditionally the *akhand sikar* starts after the *Badam* or *Sali-puja* on the day of *Buddha Purnima* in *Chaitra* (15 March-15 April). The *dehuri*, the priest of the hunt, is responsible to organise the *akhand sikar* in Simlipal, which the Santal conceive as the sacred grove of the country. There are two groups of hunting: one group (of 50 persons) acts as a fence equipped with arrows and bows (recently few had guns), and the other group drives wildlife towards the human fence. Usually they get four to five animals, such as sambar (*Cervus unicolor*) and wild pig (*Sus serofa critstatus*). The *dehuri* decides how long they stay in the camp in the forest (*bosa*), but usually it is three to four days for each group. There are different groups from different villages in different areas. According to varying estimates, 500–5,000 persons from Talci to Podadiha take part in the *akhand sikar*, and most people living from Bangripusi to Jashipur do not.

Among the Santal, *Lo Bir Sendra* (the Hunt Council), presided by the *dehuri*, is the highest Santal authority to punish those who have broken Santal customs and morals. It meets during the annual hunt.[140]

> As we burn our forest in the month of March so that new undergrowth can come, similarly, we burn our offences for the whole year in this month. Like the forest, we also clean our society every year (a Santal informant quoted in Parajuli 1996: 14).

The Santal conceive that forest regeneration and moral regeneration are similar. Communal hunting symbolises the co-operative motive of life. Who hits an animal, whether he kills it or not, has a right to the felled animal. He gives certain parts to others, and keeps certain parts for himself. A man whose

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[139] Male representatives of the local lineage perform *bhandan* (final funerary feast; *bhandan* = worship; *bhanda* = earthen vessel, Hindi) after the death of any member during that year. The corpse is buried in *sasan* or sometimes on private land. The chief mourner picks the *jan baha* (bone-flower; flowers of bone, the life index of the dead, non-literal translations: three pieces of bone from the skull, arm and collar bone), where the soul of the deceased is for the time being contained. Later that year during the *Magh*, the chief mourners take *jan baha* to the Damodar-river, the sacred river of the Santal (Archer 1974: 331, 337). Instead of bones, nowadays they often deposit a few coins (Culshaw 1949: 150-60; Orans 1965: 15). Santal men ask for a new life, and a better birth of the separated soul. (Some people cannot be reborn and are converted to *bhuts* or ghosts.) Close male relatives of the deceased person are made *dandha* (bold-headed), others have a haircut. These haircuts are symbolic killings. When the party of the deceased leaves the place, children of other communities dig out the coins from the sand. *Bhandan* is a prerequisite for both field worship and marriage rites.

[140] Santal men participate in the *lo bir sendra* or annual hunt in the burnt forest which refers to swidden cultivation (Parkin 1992: 96). Some argue it is defunct; others that is is working.

wife is pregnant should not kill or bring any animal with a head, to avoid something bad happening to the child. People suffering from diseases should not eat the head (Bodding 1986: 482). If the hunt is successful, it shows that the relationship between nature, humans and spirits is in harmony. The annual hunt is a cosmic activity, and defines relations of governance (human sphere) and is affected due the diminishing forest (a natural sphere) (Parajuli 1996: 14-5). Participating in the *akhand sikar* is a symbol of collective identity, and meat sharing among the participants expresses their communality. The Santal feel that their forest practices, sociocultural system and Santali system of government are undermined with forest degradation. These concerns may motivate to protect the forest. Declining forests are a threat to the Santals' sense of identity and security.

Group identity, expressing a particular conception of the relationships between nature, humans and cosmos, has a meeting point in the ritual system. Rituals remain important, because of the belief in the intrinsic sacredness of a ritual. Rituals can make blessings available and ward of punishments (Mahapatra 1986: 3). Santal rituals bind people as well as natural, human and cosmic spheres together. For the Santal, there is an interrelationship between the *jagarthan* and *akhand sikar*: the Santal offer domestic animals to *jagarthan* trees representing goddesses and gods, and when they organise the *akhand sikar* the forest gives them wild animals. The *jagarthan–akhand sikar* interrelationship is part of the interrelationship among the spheres of living kinds. The *jagarthan, akhand sikar* and ritual killings have cosmological significance and are believed to increase the fertility in field, byre and home.

Jhahiras express cosmogonic space–time. *Jhahiras* and the *akhand sikar* and rituals related to them express the cosmic reciprocity, endless cycle of birth and rebirth, the conception of the environment as giving, the *adivasis*' ways to show respect to living kinds, nature and spirits, and their aim to reciprocate in some manner what they take from nature. From the *adivasis*' perspective, to do otherwise is to ignore the most powerful agents in the affairs of humans and nature, the goddesses and gods. *Jhahiras* can be interpreted as *junglewala*'s reciprocating forest practice, and the *akhand sikar* as *adivasis*' reciprocating wildlife practice. Many *adivasis* see the *akhand sikar* and hunting with bows and arrows as their rights. For the foresters and wildlife activists, the *akhand sikar* is large-scale poaching and a criminal offence against the wildlife laws, and they campaign against it. I interpret this controversy as a symptom of a deeper contradiction in conceptions. Many foresters conceive the *adivasis* as 'primitives' or 'savages' 'poaching', whereas many *adivasis* see themselves as the original settlers who have (customary) right to hunt animals in the forests surrounding them. The extent to which the *akhand sikar* existed as *adivasi* hunting before the 'royal game hunting' is difficult to know, but it is possible that the latter made it a larger scale happening. Its name changed in Santali: it was called *Bethi Sendra* during the Maharaja rule, and continued as *Bir Sendra*.

The Forest Department considers the *akhand sikar* and wildlife management as enemies of each other. The *akhand sikar*, wildlife management and forest protection may be called customs or traditions. Customs and traditions are not absolute – they change. It may be a sudden change (a change of

rule), or a long-term change, for instance with the socialisation of children. The actual reasons for the so-called customs and traditions may be very different. Some customs and traditions have long traditions, others are revived, others invented, and many are a combination of tradition, revival and innovation. After investigating the ethnographic context of the *akhand sikar*, it is difficult to see it merely as a criminal activity, but as a living cultural tradition that has been criminalised. The *adivasis*' and foresters' definitions of legality vary. For the *adivasis*, hunting can be a mode of subsistence (subsistence hunting), a mode of livelihood (commercial hunting), and an activity combining natural, human and cosmic spheres (ritual hunting), and for the foresters, hunting is poaching. The *adivasis*' wildlife practices and subsistence and ritual hunting do not necessarily lead to a decline of the larger mammals, or make smaller animals locally exhausted. Nevertheless, the *junglewala* living in and around national parks have often been denied their customary rights to forest produce, while the commercial exploitation has continued with the connivance of officials. An ecosystem without human interference is unlikely, so the choice is between different agents, their forest and wildlife practices, interests, values and meanings.

Forest practices reveal, on the one hand, a direct and practical relationship to the world, and on the other hand, a great variety of symbolic interpretations of these activities and relationships. These symbolic interpretations include animals that personify social groups or totemic relationship (Lévi-Strauss 1966), and the relationship between humanity and animality (Willis 1990), and the relationship between different social groups, and their relationships with spirits. The *adivasis* socialise ecology in a way that the *akhand sikar, jhahiras* and particular trees are thought of in terms of the social processes of which humans are part of. The symbolic status of plants, animals, humans and spirits constitutes an index of ontological boundaries and social classifications. For the *adivasis*, sacrifices and hunting are not simply life-taking activity, but indicate reciprocity of life-giving and life-taking. Hunting is linked with fertility as is revealed by the prohibition on killing by husbands of pregnant women.[141]

Santal women and rituals

Santal men are directly involved in conserving sacred places and rituals, and women indirectly. Santal women move in the forest, but are not allowed to participate in sacred rituals in *jagarthans*. The Santal say that this is because every woman is a possible *dan* or *jadu* (witch), and women may be menstruating or pregnant, time-periods when they should not come into contact with most of the *bongas*. A woman has to keep away from the tree trunks in the *jagarthan*, because the nearness of her sex may pollute the *bongas*. Women must not climb a (*bonga*) tree in *jagarthans* or break its branches, because 'The *bongas* do not like women on their heads'. If a woman climbed a *bonga* tree, there would be rain 'as far as she could see' (Archer 1974: 53). Archer (1974: 192-3, 292) argues that the Santal myth of the origin of witchcraft ascribes it to the struggle between the sexes

[141] Douglas (1957) and Herbert (1993: 170) have discussed this symbolism in Africa.

within the family, and to the tensions in the family and the Santal society. Sometimes woman's pique is regarded to be the cause of these tensions. The Santal imbue women with strange mysterious powers: a woman may be able to inflame passion.

One day men assembled. 'We are men', they said. 'Why are we disobeyed? If we say a word or two to women, they reply with twenty words of anger. We can bear this state no longer.' Then they went to *Maranburu* to learn an art so that women will respect them more, and to keep women in order. The women came to know that *Maranburu* was teaching men something. The women got the men drunk, dressed up in men's clothes and tricked *Maranburu* into teaching them 'the incantations and gave them the power of eating men'. The next day, when the men came, *Maranburu* understood that he had been tricked by the women. 'The women have treated me like a child', he said. Then in anger he made the men 'expert in the art of witchfinding' and categorised women as possible witches (Bompas 1909: 422-3; Archer 1974: 293). Women, through trickery, acquired knowledge that they had no right to, and there was a change in the order of society that established the authority of men (Kelkar and Nathan 1991: 98).[142]

Santal men have authority over women due to several practices: the superior powers in ritual and religion, patrilineal clans and land-heritance through males (women may not have landed property), and several restrictions, such as prohibitions on ploughing, playing 'male' instruments, wearing 'male' clothes, thatching a roof, using a leveller, weaveing cloth, stringing a cot, using a razor, chiselling holes, striking an axe, fishing with a line and hook and shooting arrows.[143] Women are forbidden to participate in several important rituals, such as those held in *jagarthan* and those addressed to the *abge bongas*. Women (except the wife of the *dehuri*; Culshaw 1949: 89) cannot eat the most valued part of the sacrificial meat, the head, and cannot become *dehuris* or *ojhas*. A woman with intimate familiarity with the *bongas* may be persecuted as a witch. Although a man can insult another and say 'I will eye you', a woman cannot say this. A woman using this phrase implies 'the evil eye' or the wish and power to kill (Archer 1974: 28, 294, 52). Bodding (1925: 224) suggested that women's witchcraft is a secret worship, because they are not permitted to take part with the men in ordinary public worship. In women's possible evil powers lies a challenge to the existing order of male authority (Kelkar and Nathan 1991: 98). Although women and girls do not take part directly in sacred rituals, they are significant for females. Sometimes sacred rituals are performed first, and then females join the joyful proceedings of dancing and singing. Men have special rituals, songs and dances during the *akhand sikar*, *bitlaha*, and *Karam* festival, but women's dancing and singing is necessary in the *Baha* and weddings (Archer 1974: 31, 65).

A girl's power to become a witch begins at puberty, and implies that female sexuality may be related to fertility or witchcraft cannibalism. An old woman may tell tales of witches, and tempt the girl to hear the witches' songs, such as the following song:

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[142] This has many parallels elsewhere in ethnographic literature, and could be explored further.

[143] The Santal women are not allowed to handle bows and arrows, except in weddings (women dance with weapons) and in a ritual *jani shikar* (women's hunt), when women wear 'male' clothes. *Jani shikar* takes place once in 12 years (Kelkar and Nathan 1991: 60).

I have cut the plantain grove
I have taken off my clothes
I have learned from my mother-in-law
How to eat my husband
On the hills the wind blows
I have cut the thatching grass
I have grown weary
Weary of eating rice (Archer 1974: 294).

After hearing such songs, the girl must either become a witch or die. After the songs, she is introduced to the *bongas*, for a witch has to be married to a *bonga* and learn the art of killing from him. If the *bonga* does not like his bride, he may kill her. An initiated woman observes the discipline of the witches, and takes part in their gatherings. A *godet bonga* (messenger, non-literal translation) calls the members: he goes through the village carrying a black hen, and then witches hurry to their posts. Their meeting place may be *manjhithan*, *jagarthan*, a valley, a tree, the end of the village or a cross-roads. Witches take off their clothes and put on brooms, and leave a broom from which her familiar *bonga* transforms into a temporary image of herself. First they honour *Pargana Bonga* and then select persons for 'eating' and decide how to kill them: whether to 'extract' the lungs, liver or heart. If there is no witch in the particular family, the killing is postponed until a woman in the family is converted into one. After 'eating' witches 'cook' them with rice, offer to the *bongas*, and then eat them. If the entire organ is consumed, the *jivi* (soul, spirit, life principle) cannot return, but if a portion escapes the eating, the *jivi* may be regrafted on to the body of the victim. Witches may also go to places where seeds of sickness are found, sleep with their *bonga* husbands, or dance, the brooms swinging on their buttocks, with village boys drumming and dancing naked before them in the *jagarthan* (Archer 1974: 294-8).

Several Santals told that the Santal believe that during *sandhu amabasya* (full dark night; *amabasya* = new moon) or *purnima* (full moon), witches visit *jagarthan* and *sasan* (bone burial ground). One of their fingers has fire so that others cannot see them, 'like if you've a torch, others cannot see you'. Witches wear no clothes, they have only brooms. If any person is dying that night, witches may threaten that person. They return to their houses at the time of cockcrow, and if any person sees them, he or she will fall ill. If this happens, only *ojha* may heal that person with mantras and offerings. If the person has not recovered after two days, other *ojhas* are called. If two *ojhas' telo dekha* (oil seeing) is the same, *arua chaula*, vermillion, and fowl are offered in the name of the witch, *preta* (spirit) or *bhut(a)* (ghost, evil character). *Ojhas* may be able to heal after *bongas* or witches have 'eaten' or caused distress (Bodding 1986: 3, 99; Chapter 8: The forest heals).

Sadhu, a Kolho member of the Simlipal group, told that witches of different tribes (Kolho, Mundari, Santal) are trained to become witches by their guru called *dahani budhi* in the forest and on the edge of the village, where there is a *bara* tree. During the training, other people are not able to see the witches. There are two kinds of trainings, for ordinary and special witches. After the ordinary training a trainee is asked to pay the training fee: she should eat (kill with an invocation) a family

member (sister, brother, mother, father) in order to be able to kill others. If she is not able to eat them, she will become mad. If she is able to eat parts of one of them, she will be able to enter into the special training, in which she has to kill her husband or son. When special witches are working, their hands and feet face towards the sky, and they mainly eat the fresh excrement of the human body. Sometimes they are believed to fly as birds in the sky. Ordinary witches behave as if their dog was their tiger, and for special witches their dog is a lion. Special witches are able to change their appearance according to their wish from dog to tiger, snake or bird. Witches are not merely endocannibals, they are (cosmic) cannibals of their close relatives and family members.

> Witchcraft is discussed in the newspapers in the following manner:
>
> Despite claims of modernisation and social advancement, even today many villagers of our country fall prey to blind superstition. / The recent conviction of Sindhalal Tudu, 33, by Mayurbhanj district judge Jay Prakash Mishra to life sentence, including five years of rigorous imprisonment, for killing a woman suspecting her to be a witch, is just one among numerous such incidents which often fail to come to limelight (*The Asian Age*, 28 December 1997).

Because the killer did not recover from protracted illness, he began to suspect four women in the village of practising witchcraft on him. When these women had gathered to celebrate the *Makar-puja*, he attacked them with an axe. After seriously wounding three of them, he hacked one of them to death in a nearby field. The villagers handed him to the local police. Witch killings reveal the intensity of the belief in the existence of such 'supernatural' creatures who can cause harm and 'eat' internal organs. Some women are saved from sure death by the timely intervention of the villagers and the police (Chaudhuri 1984). In Mayurbhanj most witch killings are in Rairangpur Subdivision. *Jan guru* (bone guru; witchfinder, non-literal translation) tries to control witches, and is liable to imprisonment, since his activities are against the Indian criminal law. *Sal* branches are used in Santal witch ordeals (Crooke 1896: 272).

Bongas must not be polluted. Pollution is unavoidable at life events of birth and death. After the *dehuri* hears that a baby has been born, he bathes in the name of the child and his or her father. After a few days (on an uneven day), the cleansing ceremony is performed, and until this the household remains polluted, and village worship is not possible. The men are shaved, and the name is announced formally to admit the child to its clan, and be protected by the *abge bongas* (Archer 1974: 33-35). The Santal said that if a child is born at the time of any scheduled *bonga*, the *bonga* is suspended, and performed after two weeks. The birth makes it impure; purification is needed to perform a *bonga*. It is not possible to perform the *bonga*, since items collected that day will be impure. However, if someone dies on the day of the scheduled *bonga* or worship day, it is a good death, because people worship goddesses and gods and the deceased person is able to go to them without problems.

Menstrual blood is obnoxious to the *bongas* except the *Rongo Ruji*. If a woman having her 'flowers' (menses) approaches a *bonga*, it may make her blood flow for a month, and to stop this she

consults an *ojha*, who offers a fowl. The *Rongo Ruji bonga* is an exception, and may demand a woman's menstrual blood as an offering. Menstruating Santal women can do many chores: fetch water, cowdung a floor, pass through standing crops, join the dancing and use a rice pounder. If a man sleeps with a menstruating woman, he cannot sacrifice to any *bonga* the following day. A woman should hide any rags smeared with her menstrual blood. If any man sees them, he gets the woman in his power. If the rags reach flowing water, her blood will flow for days. The rags should be kept out of the granary, or it is contaminated, and the house may lose its wealth (Archer 1974: 56-7). Menstruating women are not allowed to enter *dhan bhandar* (paddy store) and visit the places of goddesses and gods (forest, river, spring) alone.

Archer argues that women can cook, but several Santals said that menstruating women should not cook or enter *roseisal* (cooking-place). Although Archer (1974: 56) argues that there are no restrictions with regard to menstruating women touching plants, several Santals told about restrictions. If a menstruating woman touches an aubergine, it will become infected by insects. If a menstruating woman touches several trees, such as lemon, orange or *tulosi*, or picks *saga* of *sajana* tree, the plant will die. A folksong reveals a link between menstruating women, men as monkeys, and unwanted pregnancies as 'making a citron fruit fall'.

> Monkey, from branch to branch you sprang
> You strolled from path to path
> Take care, monkey
> Or the citron fruit will fall (Archer 1974: 67).

The association of an unwanted pregnancy with citron fruits seems to be a reason why menstruating women should not touch lemon and orange trees.[144]

A Santal woman's 'flowers stop' when she is pregnant. Pregnant women do not collect firewood, fetch water from distant area, climb trees or visit places of *bongas* alone. If she goes near a *bonga*, the *bonga* gets angry, and the child may come out at once, or die in the womb. She may take part in festivals, dances, and be in contact with growing crops. A woman 'with two souls' may want to eat meat, fish and *mudi*. A pregnant woman is advised to sleep daily with her husband: 'It will make the child big and strong'. She should put her fingers in her ears when there is a 'sky fire' (thunderstorm). She must not see a dead body. If a pregnant woman pins leaves together, the child will be born with a split lip. If an eclipse catches her while she is digging up or planting turmeric roots, the child will be born either with two fingers joined together or with an extra finger. When a woman is to have a child, the Santal say 'her sitting days have come' and 'she has collected a bundle of seeds'. When labour pains start 'her water is hot', and after delivery 'she has had a flower-bud fall', 'she has come down from the dry tree', or 'the paddy bale has burst'. A mother becomes 'the milk-tree' in Santali (Archer 1974: 32-3, 40-1; Culshaw 1949: 120-28).

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[144] In case of an unwanted pregnancy the Santal try to find someone to give the child his clan, or abortion with herbs taken internally or pushing specific roots inside the vagina (Archer 1974). The members of the Simlipal group said that people usually do not use these, because they want to have children.

To answer to the question why Santal women do not take part in some rituals, I have investigated the conception of the woman and her status in the society, the myth of the origin of witchcraft, beliefs about *bongas*, and restrictions with regard to menstruating and pregnant women. The belief in the dangerous potentiality of women, and the fear of being 'eaten' are strong among the Santal, and hence women's participation in rituals poses a risk that is not taken. Women are excluded to protect the *bongas*, who assist to sustain welfare and fertility of the land, plants, animals and humans. Several myths, exclusion from land ownership and rituals, exclusion of women becoming *dehuris* and *ojhas*, and witchcraft accusations are part of the aim of controlling the reproductive functions of women, and claim to benefit the larger society. Since this discussion draws on Archer (1974), Bodding (1986) and mainly male Santals, they may be partially considered as men's reasons for women's exclusion. The evil power of women as witches is the opposite side of the beneficent power of men as mediators with the spirits. Witch-hunting is related to the economic, ideological and political contradictions internal to the Santal society, and to a transition it is undergoing.

Chapter 7. Reflections on the state, community and the environment

A state control–participation–self-rule continuum of forest practices

A mismatch of forest practices and sustainability relates to a state control–participation–self-rule continuum. In some *junglewala*'s forest practices (*jhahiras, akhand sikar*) the *junglewala*'s and *adivasis*' primary concern is their harmonious relationship to spirits (theocentric forest practices), and forest protection arises as a secondary and unintended consequence. In *thengapalli* (rotational community duty of forest protection), FPCs and VSSs, the *junglewala* are involved in direct and immediate forest protection activities. *Junglewala*'s judicious capacity often forms part of the organisational knowledge that helps to organise a community or villages to protect and manage forests, form an FPC/VSS, or a network of FPCs/VSSs. In Simlipal *junglewala*'s forest protection is less formal than in the plains.[145] JFM makes informal arrangements formal and uniform. This could be a way of having a state–villager dialogue drawing on the needs for sustainability and with an awareness of different circumstances. Instead both state and villager often see the continuum of both sustainable and destructive ways of relating to the forest as expressing a polarity between state and villager, rather than expressing a continuum between them. This presents dialogue.

Although state and villagers' forest practices are not separate practices, the *junglewala* and foresters know little of each other's forest practices, and are doubtful of their applicability and success. Some villagers' forest practices are actually also state forest practices, such as those state-funded or state-directed practices executed by villagers. The question here is: to what extent are these joint or imposed forest practices? JFM is an attempt to have a dialogue between villagers' and state forest practices, but for some *junglewala*, all state forest practices mean patron–client relations. Ideologically rooted polarities (state–community, officials–people, us–them) divert the attention from interfaces and possibilities of a dialogue and syncretism of state and villagers' forest practices as well as diversity within a group.

A uniform JFM policy seems beneficial to the Forest Department, whereas many NGOs emphasise the disadvantages of a standardised policy. Nevertheless, there are inconsistencies within state forest practices, since participatory forestry is not practised in Class A forests, and the Forest Department has evicted residents of the core area of the Simlipal in the name of forest and wildlife conservation and biodiversity while its monoculture plantations go on elsewhere. The Forest Department is making contradictory arguments: it requests the *junglewala* to leave their homes (Prusty 1996), while according to the JFM policy and many foresters without people's co-operation forests will not come up. Despite the apparent changes in laws, policies and development plans, they have

[145] For example, the ancestors of a Kharia village in Gudugudia *panchayat* told that 'If you destroy the forest, you destroy yourself. If you cut trees unnecessarily, the trees will curse the people'.

supported state forest practices and the role of the Forest Department in forestry.[146] People's right to say no is basic to self-determination.

While the extent to which off-site agents, such as the foresters and donor agents understand, respect and make use of villagers' forest practices remains limited, their definitions of Mayurbhanj are etched as authoritative, because their higher status enables them to dominate. Western scientific forestry, forest policies and the Forest Department have overlooked non-utilitarian attitudes to the natural world, and possibilities of the Mayurbhanjian forestry instead of following the model of first European (German, English) currently global forestry. The Jharkhandis and some Mayurbhanjians resist this pressure and argue that as residents they experience the circumstances first-hand, and are able to define and make decisions in their residential area.

Junglewala's forest practices are part of the local models of development through which the *junglewala* attempt to influence state forest practices. The tussles between the *junglewala*, village leaders, foresters, FPCs and VSSs reveal contradictory conceptions and models of development even within a small geographical area. While forest policies lay out rules and conditions, people may not obey them or construct and interpret them differently to achieve locally-defined social and political goals. Current forest practices have failed to achieve the goals that people are interested in, and have faced antagonism, resistance, unplanned and/or unintended consequences. The *junglewala* complained that although the forest provides them support against poverty, it is increasingly closed (reserve forests) and there are many restrictions to collect, process, manage and sell NTFP. The *junglewala* reject government regulations and development choices, when they are not grounded on locally defined criteria, needs and priorities, when they overlook existing practices and institutions (subsistence and ritual forest uses labelled and treated as illegal), and when they threaten livelihoods or contradict *junglewala*'s worldviews and cosmovision model. A more flexible approach towards rural land users (biomass needs), and to conservation, which aims to reduce the gap between long- and short-term interests, is likely to support sustainability.

The sustainability of the physical resource and the sustainability of the community management system depends on the capability of villagers' and village organisations to reduce the chances of conflicts and resolve them if they arise. Although the case studies show weaknesses of community organisation, such as the lack of transparency, representativeness, social cohesion and social capital, the forest was regenerating. The matching of forest practices and livelihood sustainability requires access and use rights to forest resources and more equal distribution of benefits. Both extensive forest uses (causing deforestation) and strict forest protection can make everyday life more difficult, and result in firewood-shortage. The case studies demonstrate the capacity of the *junglewala* to analyse and understand their situations and attempts to solve problems, although factionalism and local intergroup hostility make both collaboration and resistance difficult.

[146] State forest practices include attempts to control forest land, tree species (classification systems, tree tenure, marketing restrictions), labour (those who maintain and harvest forest produce) and ideology (forest laws that legitimate state authority).

Kant *et al.* (1991: 23, 42) argue that several studies show that CFM is most successful when there is a high scarcity of fuelwood, fodder and construction material, forest dependency of all sections of the society, probability of equal distribution of material benefits, mutual trust, common expectations, and risks involved in continuing other forest practices. Several case studies (Kant *et al.* 1991) show a pattern in forest protection: the poor get interested first and then the interest builds up among the wealthier, and it is easier to protect bush forests (little forest), but when the trees have grown, or there is a chance of getting a bigger slice from the cake, the unity in forest protection often breaks down. After a transitional period in forest protection, during which trees may be cut down, forest protection may begin again. A common pattern in forest protection seems to be cyclicism: protection of resources in cycles. This cyclicism could be considered as (being really) a harvesting cycle.

The *junglewala* were confused about the varying plans of the Forest Department, which were due to changes in the government policies, varying forest management approaches, transfers of officials and foresters' different interpretations of them. This confusion created rumours and uncertainty both inside and outside the Forest Department. This indicates a lack of engagement between the sphere of the government and that of the *junglewala*, as well as within the Forest Department between the foresters of different ranks. Although the Forest Department has a long history and has continually been there doing many routine practices, some *junglewala* experience them as discontinuous. Forest policies and practices may change with a transfer of a forester, and hence they may mean something this year, something else next year. Rumours and imagination get easily hold of the *junglewala* and foresters. The front-line foresters may not know about the changes in the bureaucratic fiddle-faddle or the legality of some practices, although are supposed to inform the *junglewala*. The District Forest Official meets the rangers monthly, but the foresters and forest guards only when touring, and the hierarchical set-up may restrict their interaction into merely changing military salutes. The foresters, *junglewala* and NGOs complained that the Forest Department is not supportive nor co-operative. Uniform forest policies and the hierarchical Forest Department have overlooked contextual differences, such as different ecosystems and *junglewala*'s forest practices. Controversial interpretations of customary forest practices, and inconsistency in public and private practices have encouraged an attitude of frustration, suspicion, distrust and fear towards the foresters.

Engaged and detached conceptions of the environment

Environmentalism as a transcultural discourse tends to overlook that there are engaged and detached conceptions of the environment. Ingold (1993: 32, 41) expresses the difference in terms of the local (includes regional) – global (includes national) distinction: between a local, engaged viewpoint in which the environment is understood relative to human dwellers, and a global, disengaged viewpoint in which the environment is detached from the human communities living in or near it. In the global viewpoint the notions of destruction, damage limitation, construction and control are 'grounded in the discourse of intervention': a world already constituted becomes

> the *object* of human interest and concern. But it is not a world of which humans themselves are conceived to be a part (Ingold 1993: 40).

This difference in viewpoint predicates certain kinds of power relations. The 'disengagement' perspective has been used to 'legitimate the disempowerment of local people in the management of their environments' (Ingold 1993: 41). In a similar way, Croll and Parkin (1992: 27) contrast local 'ecocosmologies' (people as a part of the natural environment) with 'a colonial view of the environment', which sets people apart from their environment. In each case the 'global' or 'colonial' environment is associated with a modernisation trend in which the 'local' or 'ecocosmological' environment is displaced. How this environmental substitution occurs: does the 'global' environment replace the 'local' environment through force (imposed on local people) or with local consent, which may limit the ability of local people to repudiate environmental change later on (Knight 1997: 713-4).

The visions of nature that inform conservation policies are socialised, located in particular social and historical circumstances. These visions have constituted the Simlipal forest as a natural relic of regional climatic and global significance (inheritance). Degrading these forests creates environmental crisis narratives, which are

> the primary means whereby development experts and the institutions for which they work claim right to stewardship over land and resources which they do not own (Roe 1995: 1065).

To privilege the forest with the images of forest loss and threatened relics, in national and international environmental discussions, coincide with the broader politico-ethnic interests of the administration in Mayurbhanj. By marking Simlipal with the Tiger Reserve and Biosphere Reserve statuses, it was promoted to the purest form of global forest in Mayurbhanj. Most foresters conceive forests surrounding them as national forests, and most *junglewala* as local forests. In many forest-related conflicts local claims clash with extralocal ones. When a resettlement plan is prescribed to the *junglewala* and they are evicted, they are made outsiders to their local situation, and feel that they are not heard.

There are different understandings of the nature of democracy in global and local models.

> In the globalist model, democracy means participation; in the anti-globalist perspective it means self-determination (Milton 1996: 195).

These models are seen in the foresters' and *junglewala*'s attitudes. For the foresters, democracy tends to mean participation (institutionalised participation for dependence), whereas for the *junglewala*, self-determination at community level and the 'protector decides' principle in forest conservation and use (participation for liberation and self-rule). See the discussion of authoritarian and non-authoritarian modes of state intervention (Vries 1992) concluding Chapter 4.

Many on-site agents are, to use Dasmann's (1988) terms, 'ecosystem people' living within a single, or related ecosystems. Many off-site agents are 'biosphere people' living with the 'global technological system' and using the resources of the biosphere (several ecosystems). Most people are

caught somewhere in between these two positions (Dasmann 1988: 278).[147] The aim of environmentalists is to increase environmental responsibility and awareness of environmental sensitivity and exploitation, and to be more dependent on immediate ecosystems rather than other people's immediate ecosystems (Milton 1996: 30).[148]

Gadgil and Guha (1995*b*: 4) classify India's population to omnivores, ecosystem people and ecological refugees. Omnivores emphasise the 'political economy of profit' in the short run, and ecosystem people stress the 'moral economy of provision' in the long run (Gadgil and Guha 1995*a*; 1995*b*). They argue that the best way to achieve a

> regime of restraint in resource use [is to ...] pass on control to social groups who themselves reap the benefits of prudent use [– ecosystem people] (Gadgil and Guha (1995*b*: 119).

The National Forest Policy of 1988 acknowledged that 'the biomass needs of ecosystem people must have priority over the commercial demands of omnivores', but the diminution of the rights of ecosystem people continues (Gadgil and Guha 1995*b*: 23-4). Nevertheless, neither of these cosmovisions and identities embedded in them are fixed entities, but have been redefined many times.

There was deforestation and destruction before colonialism and capitalist expansionism. For example, many Santals immigrated to Mayurbhanj to work as sawyers of a logging company. Nevertheless, green fundamentalism, known as 'deep ecology', celebrates a myth of unspoilt wilderness. When outsiders represent the *junglewala* as born conservationists, and reduce human behaviour to an animal-like adjustment to the environment their representation is ecological functionalist (fn 196 insiders' representations). Environmentalists, who regard the *junglewala* as holders of ecological wisdom, tend to overlook that their 'ecological wisdom' derives from two main limitations: they were limited by demography and technology from using resources destructively (Baviskar 1995: 241). This dissertation is based on the argument that besides these there are other (cultural) grounds for this restraint. Lohmann (1993) warns against 'green orientalism' in which Western environmentalists impose their own green worldview on indigenous peoples and non-Western societies. If indigenous people do not behave in an ecologically sound manner, they may lose the moral right to their customary forests and lands (Karlsson 1997: 166-7). The same people make different (conservationist or opportunist) decisions, such as to protect forests or go for short-term profits (using timber for charcoal), in different circumstances. 'Ecologically noble savage' is an image, and there are no guarantees that on-site agents protect environment or cultural diversity (Milton 1996: 201), since their engaged conception of the environment can change, especially with an increasing externalisation of control over natural resources.

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[147] Gadgil and Malhotra (1994: 30) emphasise the ecological significance of caste, and their analysis can be used to support a non-egalitarian system.

[148] Douglas (1996: 161-69) compares three waves of asceticism: the third-century Christians, the Gandhians and the contemporary environmentalists. These 'movements of non-consumption' have invoked purity, truth and justice, and rejected the ideals of good life held by those in authority with strategies of withdrawal and renunciation.

For the *junglewala* and foresters, the forest is an object of control through exploitation or protection, and for the *junglewala* also an agent of creation through worship and sacrifices. Both conceive the forest as a process and as a product, the *junglewala* emphasise the former. The foresters describe illegal felling as a massacre of forests, and the *junglewala* as 'eating' the forest. The *junglewala* talk of forest protection of specific trees in their surroundings, and the foresters in terms of hectares of forests in regional or national level. For the *junglewala*, informal (*jhahira*) and formal forest protection (*thengapalli*, FPC, VSS) are *jati datya* (community duty), and those who brake these rules are considered anti-social. For the foresters, it is their duty as government servants to protect the forest; it is their occupational duty, not the duty of their *jati*. The foresters identify with their profession, and the *junglewala* with their community. Moreover, the *adivasis* have totemic identification and metaphorical habitats in forest plants and animals, and complain that the foresters merely have rhetorical identification with the forest. These reveal *junglewala*'s cosmos or lifeworld view of the world (living within nature), and foresters' global view of the world (living on and off the nature) (Ingold 1993: 41). The latter, living on and off the nature, is increasingly becoming also a view of the *junglewala* in their efforts to exploit or protect the forest.

PART III: FOREST PRACTICES: *HOR* AND *DIKU* SYMBOLISM

Forest distinctions are made in terms of vegetation density, composition (softwooded, broad-leaved), ownership, legal status (reserved forest, core area), functions (protection, exploitation) and reveal social relations. I begin with more practical distinctions and their meanings, such as belongingness, ownership, access rights, rights to forest produce, 'good forests', preferred species, trees, firewood, NTFP, medicinal plants and forest foods. Then I interpret forest-related myths, folksongs and rituals. I shall argue that from these verbal and non-verbal performances cosmovision models may be inferred that make explicit the interrelationships among natural, human and cosmic spheres.

Chapter 8. Practical knowledges

Belongingness, ownership, and forest rights

For all *junglewala*, the forest is about belongingnes.

Aame junglera jungle aamar We belong to the forest, the forest belongs to us.

The *junglewala* belong to the land and the Mother Earth that has given to ancestors, gives to the people currently living, and will give to future generations. 'The forest unites us'. The *junglewala* experience the land, forest, village and spirits as ontologically part of each other. Belongingness indicates being part of the land. The land is part of family and cosmic heritage and provides economic security. Ownership indicates material property relations. The *junglewala* have labour-based understandings of forest ownership, and foresters (and the West) have legal understandings of forest ownership, and talk of the investment of labour. For some *junglewala*, it is also a question of property and ownership. The *junglewala* of the Budhikhamari area conceive the forest belonging to those who protect it. The Mopanians conceive the forest as government property and the foresters as living signs of this. Many *junglewala* in Mopani and Simlipal said, *jungle malik sarkar* (forest owner is the government).

> The Collector and Minister own the forest. [...] I go empty stomach and the government owns the forest (an old Bhumijo man, Mopani).

He expressed further criticism by saying that all foresters are bad: unless they get Rs. 50-150 per month, they do not let the *junglewala* be. A young Sabar man said that no one owns the forest, but the *tigerwala* (the foresters of the Simlipal Tiger Reserve) have rights to the forest. Few said that since there is no village forest boundary demarcation, villagers are not forest owners. A Bhumijo man said that lion owns the forest and wild animals have rights. A middle-aged Sabar man said that *Thakurani* goddess owns the forest, and people have rights to the forest. The *junglewala* experience the land, forest, village and spirits as ontologically part of each other, and belongingness indicates rootedness in this whole. The *junglewala*'s views of the forest owner vary from the government, people, community

property to goddesses and gods. Some *junglewala* said that *sarkar* has the rights, 'It belongs to the government, we've no rights', others that those who collect forest produce have rights, and others that all or the *junglewala* have rights. If NGOs will have more influence in the future, more *junglewala* are likely to request for forest rights and ownership.

The evicted residents of Simlipal do not want to leave the land of ancestors and grandfathers, village, house and/or their birthplace.

> I'll never leave my birthplace/soil (a 60-year-old Mundari man, Kukurbhuka, Jashipur block).[149]
> Whatever you do, we stick to our land (a 35-year-old Santal man, Kabatghai, Jashipur block).

When relationship to land is one of belongingness, resettlement makes no sense. Displacement causes disruptions in kinship groups and production systems dismantling social, food and health security as well as credit and labour exchange networks (Kothari *et al.* 1996; Fernandes and Paranipye 1997). Some made a link with the future of the forest: 'If we aren't here, then the forest will be destroyed'. Many blame the Tiger Project staff for destroying the forest and wildlife.[150]

'Good forests' and preferred species

Generally, the *junglewala* think that *sabu jungle bhala* (all forest is good). The *junglewala* said 'the forest is our mother', and 'the forest is always good' be it a plantation or natural forest. In more detailed discussions the *junglewala* make distinctions between forests, but they rest on the premise that all forests (: mothers) are good. The *junglewala* classify 'good forests' in relation to the quality, quantity, place and protection. Whether the *junglewala* have been exposed to social forestry or not, they like *sal* forests: the more *sal* trees, the better the forest. Unless in a badly degraded area, *sal* is a regenerating species, and this is a reason why some *junglewala* like it. The *junglewala* favour natural generation, if not for economic reasons, but because they want to have *sal* trees. *Sal* is a multipurpose tree. A forest for the *junglewala* serves multiple subsistence, commercial and ritual purposes, and hence their goal is a forest of multipurpose species, rather than a monocultured forest. Besides *sal*, the *junglewala* value *mahua, char, asan, piasal, sisoo* and fruit-bearing trees.

In relation to quantity, the *junglewala* mentioned forest density, diameter, height and the age of trees ('big trees'). Regarding place, villagers mentioned different locations within a five-kilometre radius from the village they lived in. Many said Simlipal is a good forest, partly because they conceive it to be inexhaustible.

> This forest may be cut clear after some years, but Simlipal will never be (a 20-year-old Santal man, Burupal).

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[149] A Santal father buries the 'afterbirth' (umbilical cord) in the house where the birth took place, and the Santal refer to 'the village where my afterbirth was buried' (Culshaw 1949: 125), rather than birthplace (*janam* = birth; *mati* = soil, place).
[150] 'When there was no Tiger Project, territorial staff fined illegal fellers. Now the tiger*wala* collect bribes from *patti-wala* [...] and organise forest protection meetings'.

Some *junglewala* relate good forests to forest protection: 'if there's good protection, there's a good forest', and 'if *thengapalli*, then a good forest'. Some said that a bad forest is 'where our essential produce aren't available' or 'where people cut the trees and the forest becomes *safa*' (clear). Even then most said that it may be a bush forest of small, growing trees, but the *junglewala* get something out of it, such as species which produce can be harvested annually (berries, branches, leaves). Rather than big timber, the *junglewala* are interested in annually harvested produce, small timber and poles for houses. The Mopanians valued arrowroot, honey and resin in the forest, and the Burupalians valued *sal* leaves. *Sal* leaves are many in a regenerating *sal* forest, but to have honey an old forest with rich biodiversity is required, and to have resin in *sal* trees, the trees have to be at least 10 years old.

Those *junglewala* with no experience of social forestry plantations link plantations with planting fruit-bearing trees (banana, coconut, jackfruit, lemon, mango) and bamboo, and those with social forestry experiences link plantations with fruit-bearing trees together with commercial, quick-growing species (*acacia,* eucalyptus), which are used in paper and pulp factories and yield revenue, or timber trees (teak). Young men and some better-off households prefer timber or quick-growing species to fruit-bearing trees, whereas old men and *adivasi* women are keen to have fruit-bearing trees. Some women, such as a Santal woman married for several years without children, also wanted flowering trees that signify fertility (incipient life). Some wanted them for their beauty, smell or use in worship (Goody 1993: 326-340). Santal women identify themselves with flowers as their metaphorical habitat (Archer 1974: 30-31, 250; Mahapatra 1992: 74). A wife 'nods and sways like a flower' in Santali (Archer 1974: 111).[151]

Practical knowledges of trees and firewood

Junglewala's tree knowledge covers wood quantities and qualities for specific uses, such as house construction, household and agricultural implements and firewood. Because firewood is essential for the *junglewala*, I analyse their knowledge of fuelwood species in detail.

The *junglewala* know the following 10 species easily: *amla, asan, bahada, dhaw, gambhari, harida, piasal, rimuli, sal* and *simli.*

> We've nothing so we've to know how to use the forest (a 50-year-old Bhumijo man, Mopani).

To have a more detailed understanding of their forest knowledge and practices, the Simlipal group did a matrix ranking and scoring of 65 plants used for 166 purposes. These purposes include: agricultural implements, household furniture (cot), household and commercial use of medicinal plants, beer or country liquor, household and commercial use of forest foods, shadow, well ring, less harmful injects, fodder, house construction, fencing household and kitchengarden, and firewood. Different uses of forest plants show the importance of multipurpose plants for the *junglewala* (Appendices 4 and 5).

[151] *Baha* means 'flower', 'flower-festival', 'female sexual organ' and 'menses' in Santali, and is associated with reproduction. *Bahu* means 'bride' and 'daughter-in-law'.

To construct houses the *junglewala* use *asan, bamboo, gambhari, kankada, karam, mahua, polas, piasal, sal, siali* and *sunari. Kargale, kasi* and *sidha* are good, because white ants do not destroy big trunks of these species. Another method against white ants is to put tar on wood 15-20 days before constructing a house. Different species may be good for different parts of the house (beam, to prepare walls or roof). The *junglewala* bind wooden parts together with *siali* rope. Houses are made of mud with thatched roofs and supporting poles. Houses are re-thatched every year. With minor repairs, these houses may go for 80 years. A few had built another house after the old one had collapsed. The winter is the best season to construct a house; rain during the monsoon, and hot weather during the summer cause more problems. A forester estimated that the yearly use of a *junglewala* household is a cubic metre of wood for housing, fences and furniture (cot).

A carpenter said that hard trees are *mahua, neem, sal* and *asan*, and soft trees are *gambhari* and *simli*. For household furnitures and agricultural implements the *junglewala* prefer to use *sal, gambhari, piasal, champa* and *sisoo*. Due to the current non-availability in the plains many use *chakunda,* mango and jackfruit. To make agricultural implements, depending on their weight and durability, the *junglewala* use *asan, gambhari, kusum, panjan, paruli, sal* and *sunari. Neem* or *kusum* wood makes a better plough than *sal* wood. *Jamu* tree provides best shadow and coolness, and an open *jamu* well-ring gives coolness to water. *Sal* is used for plough, *mai* (used in ploughing, the wood that holds the iron), for irrigation purposes (*danda* and *tenda*, hallow wood and water goes through it to the field). *Piasal* is used for *palanka* and shelf. *Gambhari* is used for yoke and *pedi* (wooden box to keep clothes and money). *Sisoo* is used to make *palanka*, chair, table and tools. Tree trunks have many uses. A stripped trunk gives resin, a felled trunk is used as a *gandi* (charred tree-trunk) and provides warmth, and from a split or hollow trunk a skilled person can make a musical instrument.

Several produce derive from trees directly (resin, gum), and others indirectly (household ashes). Collectors mark resin- and oilseed-bearing trees and bee-hive-trees, but some collectors do not respect these 'ownership'-marking nowadays. Especially Kharia men collect resin. There is a saying:

> Resin and honey are the cultivation of the Kharia. Resin is their barren land cultivation and honey is their *asu* cultivation (paddy).

Collectors mark over ten-year-old *sal* trees in October and collect resin in December. The Santal use seven species of resin (Bodding 1986: 465). Ten years ago there was more resin in a tree, and collectors could get 1 1/2 kilograms per tree, but now they may have to collect from eight trees to get this quantity. This indicates that there are less big trunks in the forest, and the *junglewala* and foresters said so. For example, a group of three collects 30 trees, one person from 10 trees. In 1997 the rate of resin was Rs. 50 per kilogram. The Simlipal Forest Development Corporation used to buy resin, and the Orissa Forest Corporation Ltd. arrowroot, but these are now banned (Bakhla 1996: 78-9).

Junglewala's forest knowledge helps cultivation. Although commercial pesticides are becoming more common, some *junglewala* use household ashes as pesticides. Some use bamboo leaves against white ants. Leaves are dried, made into powder and thrown on the field (10-15

kilograms for 0.75 acre). A traditional, organic fertiliser is hay that has gone bad after heavy rain. Villagers often regard the use of household ashes, powdered leaves and rotten hay as a necessity of the poor, implying that if they had money, they would buy commercial fertilisers. Hence, they are not organic farmers by choice, and bought seeds, fertilisers and pesticides represent improvement to many. A Sadgup man made an insightful comparison of ayurvedic and allopathic medicines and local and commercial pesticides: 'For immediate effect commercial pesticides are used; like with ayurvedic and allopathic medicines'.

Junglewala's firewood knowledge covers qualities, quantities, seasonal and household variations, subsistence and commercial uses, carrying distance, availability, weight and how easy they are to light, prices, and their link with forest protection. A greater range of firewood is available in Mopani than in Burupal. The Mopanians regard as good firewood species: *dhaw, asan, kusum, sal, polasi, harida, piasal, barabakalia, bel, ambada, gambhari, panigamar, mahua, chauli* and neem. For the Burupalians, good firewood is *sal, bamboo, mahua, mango* and neem. If these are not available, people collect dry timber and leaves. Some collect dry leaves from social forestry plantation one or two hours daily. In Burupal many households have both big and small *chullahs*, which are built to face west not to get wind. For big *chullahs* the Burupalians collect leaf-firewood during January and February (best availability of fallen leaves) to cook paddy. The Mopanians cultivate paddy less and have no big *chullahs*. Some Burupalians use agricultural remainders from *sabai* grass as firewood. The *junglewala* use rarely cowdung to make fire, because it is a good fertiliser. Sometimes when the *junglewala* do not find dry timber, they cut fresh with an axe and put it in the sun to dry. Most *junglewala* cut branches for firewood rather than fell whole trees.

Firewood consumption is higher during the first six months of the year, and lower during July-December. Firewood collection during the rainy season is infrequent, because it is more difficult to move in the forest and the *junglewala* are busy cultivating. The quantities different households collect vary from 30 kilograms to a bullock-cart per week. Many do not know the exact quantity, and said how many bundles they use weekly. The average size of a bundle for a headloading woman is 15-20 kilograms and men carry 25 kilograms on the shoulders with a help of a bar.[152] Some *junglewala* collect firewood when they herd animals, or use the forest for sanitation. To get these quantities the time varies from few minutes to several hours. Due to forest regeneration the Burupalians need less time to collect firewood. Some collect every day, others weekly, others monthly, and some (caste women) do not collect firewood themselves. Some have firewood growing on their land, and use common forests less. Others buy, because have no time to collect themselves. For example, a Sadgup family of five needs 20 kilograms of firewood weekly; two kilograms to cook rice and curry for one day, and twice a week five kilograms to prepare *mudi*. The guardian is a cattle dealer, who walks once a week from Dhenkanal (250 kilometres from Baripada) with oxen, walking 60 kilometres a day for

[152] The method of carrying is gender-specific, and the Santal extend this to asking the baby's sex. A day after the birth, the guardian says 'New guest has come'. If it is a girl, people say that it was brought on the head, and if a boy, it was brought on the shoulder.

four days, and from Udala (60 kilometres from Baripada) walking one day, to sell them in a different *haat* hoping to make profit. Since he has no time to collect firewood, he buys from other villagers' gardens. In Simlipal it can be cold at nights during the winter, and the residents sleep on hay, and on top of the blanket they may put *patia* (basketry prepared from *banakhejuri* leaves), and use *gandi* to provide heating.

Some Burupalians made a causal link between forest protection and firewood, 'If you protect, you get firewood from the forest', and others between having forests, more rain and better crops. For some, these causal links are reasons to protect forests. Before the formation of the FPC the Burupalians collected firewood randomly. The FPC regulations allow each household to get a bullock cart of firewood branches (market value Rs. 150) once a year before the *Makar-puja*. Villagers pay fees to the FPC secretary to collect firewood: women pay Rs. 3 for a headload and men pay Rs. 5 for a bundle. The activities of the FPC and the BJFPC aim to encourage the *junglewala* to protect forests. Some *junglewala* said that because of forest protection forest produce are available, others complained that the FPCs and/or the mobile squat do not pay enough attention to their needs and/or restricts their rights.

> The Government has given a forest to collect firewood. [...] Sometimes the mobile of Budhikhamari come and we cannot go. If we're caught, they take a cycle or an ox (a 48-year-old Sadgup man, Burupal).

The table below shows how the *junglewala* of Simlipal rank firewood. The Simlipal group made it. The *junglewala*'s overall criteria are tied to the availability (distance) and suitability of species for particular uses, such as light weight, ashes, charcoal, easy to light or which creates light. The distances mentioned in the table are the shortest in Mayurbhanj, since their forest resources are the most abundant in the District. *Sal* is the easiest and *jamu, kaima* and *korora* are the most difficult fuelwood to find. *Kulta* has the lightest weight and *asan* the heaviest. They consider five species good for ashes, and three species, *sal, harida* and *jamu*, for making charcoal. *Dhaw* is the easiest fuelwood to light. The best ones to create light are *gangasiuli, kulta* and *piasal*. Based on household interviews and discussions with the *junglewala* I assume that the matrix ranking and scoring of fuelwood species by wider population includes fewer species due to poorer availability.

species	**distance in kilo-metres** unless metres mentioned	**easy availability**	**light weight**	**ashes**	**charcoal**	**easy to light**	**to create light**
asan	1/2 -2	2	9B	2	-	3	3
bahada	2-3	5	7	4	-	5	5
dhaw	1/2 - 2	4	9A	1[153]	-	1	2

[153] Only the ashes of *dhaw* tree are white (other ashes are black) and are used to clean clothes. White ashes and clothes are put into hot water in an earthen-pot, and stirred with a stick for 10-15 minutes. Machine-made clothes are washed with soap, and hand-made clothes are cleaned with white ashes, because soap will not clean them. In Burupal and Mopani clothes are washed

gangasiuli	2-3	3	3	-	-	-	1
harida	1-4	5	9	3	2	4	4
jamu	1-5	8	6	-	3	-	9
kaima	1	8	4	-	-	-	5
korora	1	8	5	-	-	-	6
kulta	2-4	3	1	-	-	-	1
kusum	1/2	7	9	5	-	3	7
mahua	100 metres	7	9	-	-	-	8
piasal, baja	1-2	6	2	-	-	-	1
sal	50 metres	1	8	-	1	-	6
tilai	1/2 -3	3	5	-	-	-	6

Table 4. Matrix ranking and scoring of fuelwood species

Although the declared aim of social forestry was to provide fuelwood, most trees on plantations are *acacia* and eucalyptus, which the *junglewala* and wider population do not conceive as fuelwood species. Apart from leaves, the *junglewala* do not conceive social forestry plantations as fuelwood. They are valued for their income to be sold as raw materials for pulp factories. The *junglewala* did not include climbers as firewood, although they are allowed to cut many climbers in most places. The foresters see this as a forestry operation, and find it difficult to understand why the *junglewala* do not cut climbers.[154]

Many *junglewala* did not know the quantities involved, neither their market prices, which implies that these are not their concerns and forests provide enough for their household consumption. *Adivasi* women collect firewood mainly for household, some men collect also for sale. Young men are the most involved group in tree-felling for sale without a licence. When the foresters catch men shoulder-, cycle- or bullock-cart loading firewood red-handed, they are fined (Rs. 400-500/cycle-load). If they do not have money, their cycles are seized and a case may be taken against them. If fuelwood-transporters were not stopped on the way, in Baripada they got Rs. 120-140 for a cycle-load of 150 kilograms in 1997. Most *junglewala* support forest protection, but their first priority is to earn livelihood, which may require felling trees.[155] The foresters chop a tree when its diameter has attained the best market value, whereas many *junglewala* do so when they need to eat.

The fear of 'losing' the forest – *junglewala*'s material base, existential reference point, and a source of emotional satisfaction – leads some oppose tree-felling, and others to collaborate. Collaborators think that the trees are cut anyway, and by collaborating they get their livelihood. Hardships, instigation by corrupt foresters, and the temptation of consumer goods encourage some

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with soap and soda. 'With 100 grams of soda all will be clean', a Santal woman said. The state of the rivers may not welcome more soda, but the way the Santal wash their hair may be more welcomed, since they use *chikita mati*, clay on the riverside.

[154] Although recognising that some climbers, such as *anantamula, pitalu* and *satabari*, have important medicinal value, the foresters and Bakhla (1996: 54) claim that climbers cause injury to flora and complain about inadequate funds to employ labour to cut them. There are also restrictions to cut some climbers, which hinders the Kharias, who make *siali* rope, to earn their livelihood.

[155] In 1992, a Social Research and Development Council (NGO) estimated that nearly 10,000 headload and 5,000 cycleload firewood from the Simlipal regularly, and 100 persons are involved in sawing wood inside the Simlipal.

junglewala to fell trees. Some *junglewala* resist the forest loss openly by becoming Jharkhandis, others by conversion to Christianity, as Karlsson (1997: 184) argues happens among the Rabhas in West Bengal. Although most Indian and Western scholars have understood the spread of Christianity among the *adivasis* in India in terms of political submission and cultural destruction (Elwin 1958; Fürer-Haimendorf 1982), during the 1990s anthropologists and historians have begun to interpret Christianity as a part of a political protest and cultural resistance to colonial and postcolonial domination (Comaroff and Comaroff 1991; Karlsson 1997).[156] Both forms of cultural resistance can provide a sense of belonging and security. Some Jharkhandis oppose Christianity, because the separation of *adivasis* into believers of *adi dharmi*, Hindus and Christians may hamper *adivasis*' future political mobilisation.

Subsistence and commercial use of non-timber forest produce (NTFP)

Apart from trees, forests have other 'gifts'. Although different terms, minor forest produce (MFP), non-timber forest produce, non-wood forest produce (NWFP), imply that there is a major item that is timber or wood, for the *junglewala*, NTFP are important as subsistence goods and income resource, and needed in rituals.[157] I refer to them as NTFP or NWFP, since their significance is major rather than minor, although conventionally politicians and foresters have overlooked NTFP. NTFP 'are estimated to generate 70% of all employment in the forestry sector' (Poffenberger 1996: 268). NTFP are a source of survival-support to thousands of the rural communities, and overexploitation has lead to a reduced availability of some plants. In Mayurbhanj the most common ways to gain livelihood from forest produce is *sabai* rope-making, and *sal* leaf cup- and plate-making. The *adivasis* form 58 per cent of the total population in Mayurbhanj (1,091,000 according to the 1991 census), and most of them keep rice in the house with these practices. The quantities consumed and sold vary seasonally, between communities, and from household to household. The use of NTFP depends on several interrelated factors: availability, season, household and/or commercial demand, yield, government and community rules (Fernandes *et al.* 1988: 124-5).[158]

The importance of NTFP for the forest-dwellers is shown by Malhotra *et al.* (1992) research of 216 randomly selected households from 12 FPCs in the Jamboni Range in Midnapore District in West Bengal. They found 214 wild plants in the regenerating *sal* forest. Villagers used 72 per cent (155) of these for food, fuel, fibre, fodder, medicine, construction, commerce, household articles, religious use and recreation, and 70 plants frequently and regularly. Apart from direct sustenance use of NTFP, they are a source of income throughout the year. The most important income-generating

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[156] 'At one level, embracing Christianity is a way of marking a difference, or setting themselves apart from the dominant Bengali (largely Hindu) community. As described earlier, Rabhas understand their predicament, the risk of losing their forest as a consequence of the present rule of the Bengalis or the Bengali *Sarkar*, and in this light conversion acquires an explicit political dimension' (Karlsson 1997: 184). The extent to which this is the case in Mayurbhanj is difficult to estimate, since I did not have time to research it.

[157] NTFP include fruits, fodder, herbs, medicinal plants, mushrooms, honey, resin, flowers, seeds, pods, leaves, oil, fibres, floss tans and dyes, usufruct-based trees, and fruit and oil bearing trees.

[158] Although usually the *adivasis* are involved in *sal* leaf plate-making, in some villages this is not the case. For instance, in Karanjia agriculture is the main profession of the Santal, and the Bathudi and Patra (weavers) make leaf plates.

NTFP are *sal* leaves and seeds, *kendu* leaves and fruits, fuelwood, fodder, *mahua* flowers, tubers, medicinal plants, tussar and mushrooms. NTFP incomes in *adivasi* households were 22 per cent (Rs. 2,523) and in general caste and *dalit* households 16 per cent (Rs. 2,738) of the total family income (at 1991 prices; excluding medicinal plants, several fruits and occasionally hunted animals). Fuel and fodder contribution were 79 per cent of the NTFP income for the *adivasis* and 74 per cent for the general castes and *dalits*. Malhotra *et al.* (1992) estimated that income from NTFP in a household was seven times greater than the amount the household would get as their 25 per cent share of revenues generated from the harvest of 10-year-old regenerated *sal* forests.

In Mayurbhanjian case studies forest income from NTFP varies from community to community (more in *adivasi* communities) and from household to household (the number of household members and their occupations) on average from Rs. 1,000 to 12,000. Most households are involved in collecting fuel and fodder for household, and if firewood is sold the amount is more. Apart from fuel and fodder, the most important NTFP in Burupal are *sal* leaves and *sabai* grass, and in Mopani *sal* and *siali* leaves, oil seeds, *mahua* flowers, tubers, mushrooms, honey, resin and medicinal plants (especially *harida*). According to the report of the Forest Department, the average yearly household income from the Budhikhamari, Manchabandha, Hatikote and Bhagabat Chandrapur Reserved Forests is over Rs. 11,000.

Forest produce	**Value in rupees in 1997**
1. Firewood 300 kg per month per household	2160
2. Poles and small timbers average of 10 poles per household (50/pole)	500
3. Green *sal* leaves picking to make plates and cups (Rs. 600/month)	7200
4. Climbers, roots, mushrooms, tubers	200
5. Medicines	100
6. *Mahua* flowers (*mahuli* is brewed from *mahua*-flower)	300
7. *Mahua* and *kusum* seeds	500
8. *Sal* resin, lac, tussar	50
9. *Sal* seeds	500
10. Fruits (*char*, mango, kendu etc.)	50
Total	**11 560**

Table 5. Average household income in the BJFPC area (JFM: Budhikhamari report 1997: 5)

The government has formed different organisations, such as the Orissa Forest Development Corporation (OFDC) and the Tribal Development Corporation, whose declared intention is *adivasi* welfare, but so far their vested interests have worked against the primary collectors receiving fair prices.[159] Because of the *junglewala*'s 'hand to mouth' existence they need on-the-spot payments, but these corporations have not been able to deliver them (Fernandes *et al.* 1988: 142).

> The policy is fine, but how bureaucrats are implementing is horrible (a government official, Baripada).

[159] The OFDC was in dire straits in 1997. For instance, *mahua*-trade was nationalised in 1991 and without examining the viability of the trade, a fixed price of Rs. 3/kilogram for *mahua*-flowers was set in 1991. Due to fake purchases and a shortage of cash balances, there was a loss of Rs. 5.5 crore (*crore* = 10,000,000) in 1994.

The current working plan (Bakhla 1996: 93) encourages departmental collection and marketing of NTFP to ensure better 'exploitation' of NTFP and payment of wages (Rs. 25/day). Nevertheless, a single private company, the Utkal Forest Product Ltd. established in 1992, has been granted a state wide monopoly for 29 different NTFP with a 10-year lease.[160] These monopoly leases have forced many smaller companies out of NTFP business, and this has decreased price-competition and earnings of the primary producers. One businessman said that the Utkal Forest Produce 'purchased the government'. His family company used to deal with forest produce, but 'due to the government rules there is harassment in forest produce', and they were mostly dealing with cement in 1997.

Saxena argues that

> The stated objective may be to do away with "middlemen", but the unstated objective is to create patronage by exploiting the poor, and help just one trader (and those who have the powers to "inspect" and grant licences), rather than allow free market to operate (1996: 104).

Nevertheless, those who advocate the withdrawal of the state from forest management still expect the state to intervene at times of market failure. Unlike wood, many NTFP cannot be stored, and this may cause market failures to cause a crisis. Many agents consider NTFP collection, processing, production, management and marketing as the most important to keep trees intact.

Picking of *sal* leaves and cup- and plate-making

Sal leaves picking is a controversial forest practice because of conflicting ecological, economic, political, legal, sociocultural interests. The picking of green leaves has recently been prohibited as detrimental to the tree growth by a Government order. *Sal*, the dominating species of this forest region, produces many leaves throughout the year. Picking of *sal* leaves and cup- and plate-making started as local use, and is now a cottage industry to which most *adivasis* of the forest areas take part in Mayurbhanj.[161] *Sal* leaf plates are used in several rituals. In urban weddings, they are used for eating, but, for instance, in Bhumijo weddings women of the bride's family put the bridegroom on a *sal* leaf plate to sit. Leaf plates (*khali*) and bowls/cups (*chauti*) are mostly made out of *sal* leaves, sometimes *siali* leaves (in Simlipal), which are up to a foot long and wide (two-lobed form). Leaves of different species are not mixed together to make a leaf plate. The leaves collected have to be mature but not old, medium-sized, and without any damage. Collected leaves are dried in the sun for a day and then eight to 10 leaves are stitched together with small bamboo sticks to form round plates. An average leaf plate is 30 centimetres across. To pick 5,000 leaves, a person needs at least eight hours. Many prepare plates during the night time to sell them to the middlemen in the morning. By making 400 plates daily a household got Rs. 20 from leaves. A bowl is made from two to three leaves and bowl-makers make 1,000 bowls in eight hours. The official minimum wage for eight hours' daily labour is Rs. 30. During

[160] In Mayurbhanj, the Forest Department dealt with 14 items, and had leased 18 NTFP to the Utkal Forest Products in 1996-97 (Lease of MFP. Baripada Division Office. 29 November 1996).

[161] Commercially used plates and cups have few standard designs. Bodding (1986: 448) describes 17 styles in which the Santal make leaf cups, plates and spoons. Some are made in the same way, but have different names depending on whether they are used for vegetable or meat curry.

the rainy season, 'leaf-people' collect fewer leaves, because they are busy cultivating, and it is difficult to move in forests, and dry leaves. In some villages of the BJFPC, *sal* leaf collectors pay Rs. 2-3 for a cycle-load for the committee fund. The more one goes towards the centre of the Simlipal, the less people collect leaves for sale.

Besides the hand-made leaf plates and cups, processed, waterproof moulded leaf plates, cups and trays are manufactured. Between two handmade plates a plastic is used as adhesive, and then pressed for 10-12 seconds.[162] Most areas where the *junglewala* collect *sal* leaves have no electricity, and this has confined these areas to collection of leaves and selling them in a semi-processed form. Researchers in the Indian Institute of Technology (Kharagpur, West Bengal) have developed a *sal* leaf plate machine that works on biomass.[163] By selling processed leaf plates, primary producers could add value to their produce. The disposal mechanism of plates and cups follows the one-to-one exchange system. Primary producers collect and stitch them to leaf plates or cups first, and then sell them off at nominal prices to the village level intermediaries. The purchases are often small-scale and carried on bicycle carriers to the next level middlemen, who are the commission agent of hoarders. Both women and men are primary collectors and makers of hand-made plates and cups, men make many moulded leaf plates, and do most of the hoarding and act as middlemen. Leaf plates and bowls are used locally and nationally, but not abroad, because after a month their colour changes.

The Forest Department does not have a consistent approach towards 'plucking' of *sal* leaves.[164] According to the District Forest Official's letter to rangers,

> Government has stopped collection of *sal* leaves from forest since 1991 on silvicultural grounds. Now again government is not keen in commercial exploitation of *sal* leaves. As such you are requested to discourage collection of *sal* leaves from forests and the traders dealing with *sal* leaves. Cups and plates should also be requested for the same (Memo No. 7546, 11. 14 November 1996).

Some foresters emphasise ecological interests, and argue that *sal* leaf-harvesting does not allow the *sal* crop to regenerate, reduces photosynthesis and the generation of wood biomass, and therefore has an adverse impact on the health of the trees. *Sal* leaf-picking deprives the forests of leaf litter and reduces humus in the soil, which in turn reduces the activity of microflora and their ability to recycle phosphates to the trees (Chaturvedi 1993: 53-6). Deb (1993) argues insects reduce tree productivity more than leaf-harvesting (suitable leaves within a reach of the harvester). Leaf-picking, especially before the rainy season, may have beneficial effects similar to pruning. Bakhla's working plan (1996:

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[162] The labourers work on a contractual basis, and got 3 paise per plate, 7 per cup, and 20 paise per tray consisting of four compartments. An average daily wage for eight hours was Rs. 30. An electric machine can produce 300 plates per hour. There were 100 trays in a bag, and it cost Rs. 25.

[163] The machine consists of a multifuel biomass-based stove to generate heat, which is passed through a heat exchanger to a circular die to retain its temperature in the range 140°-150°. A circular blade is attached to the rim of the die for trimming edges of eight to 10 leaf plates at a time. It can produce 1,000-1,200 plates in six to eight hours. An operator can earn Rs. 40-45 per eight-hour day, and three operators can work within 24 hours (Participatory Forest Management Project 1995: 9).

[164] The foresters talk of 'plucking prohibition' to emphasise that the leaves are not fallen leaves collected from the ground, but green leaves plucked from the trees.

75-6) contradicts the Government of Orissa picking prohibition and encourages the setting up of more mechanised factories to meet the demand, 'fetch more revenue', and provide employment.

The Roy Burman Committee (1982) has recommended that NTFP collection for food and cash income should be considered as the *adivasis*' right without restrictions. Saxena (1995: 132-4) argues that in reality many policies, such as (de)nationalisation of forest produce, government fixed price, and bans on felling trees and collecting certain NTFP, have alienated people from their resource base. Although the national objectives have changed to prioritise people's needs, there has been no change in silvicultural practices, and the gap between (the rhetoric of the official) policies, practices and livelihood requirements remains. For instance, the Forest Department manages *sal* for timber and allows only one shoot to grow. In degraded forests, since *sal* is a good coppicer, to maximise biomass and produce more leaves, many shoots should be left to grow. NTFP come from living trees, and timber is a produce of dead trees. Timber creates on-time incomes, NTFP generate recurrent and seasonal incomes. If the *junglewala* have access and use rights to NTFP, standing trees maintain biodiversity, generate more income and employment than the same area cleared for timber. These factors are likely to encourage forest protection.

The forest heals

Another importance of the forest is its healing capacity. I investigated mostly *adivasi* medical practices (Kolho, Mundari and Santal communities in Simlipal) to provide a case-study of forest practices, knowledges (classifications, methods of preparation) on medicinal plants.[165] Medical knowledge of the *junglewala* is diverse, which I broadly type as general knowledge or specialised knowledge. Ordinary people discuss their knowledge of medicinal plants, but professional herbalists and diviners may not, because some is secret knowledge, and it may be a question of loosing their livelihood.[166] Most *junglewala* use herbalist home-remedies for general ailments, diseases and illnesses before resorting to medical specialists. Ethnomedicine has its roots in the knowledge of the ancestors, and people learn from old(er) persons. The young *adivasis* and *dalits* and most general castes rely more on allopathic medicine. In Burupal and Mopani the *junglewala* know uses of between one and five herbal remedies for the following diseases: blood dysentery, cold, cough, diarrhoea, fever, headache, malaria, venereal diseases and stomach pain. Some also know incantations against a snakebite or to invite a witch. Some know veterinary medicine.[167] Some households do not collect medicinal plants (14 households in Burupal), other households grow medicinal plants in their gardens. The most commonly used medicinal plants are: *patalgaruda, gangasiuli, kulutchi* and *harida*.

In the plains many people cannot identify many medicinal plants, and/or have forgotten how to use them. Some said they cannot find the plants, others that they do not have time to prepare the

[165] Also several insects (earthworm), birds (peacock) and wild animals (sambar) and their produce form an intrinsic part of the *adivasi* medical practices.
[166] Bodding (1986: 135) had to promise his key informant, before his death Bodding would not make public his knowledge of medicinal plants to keep rice on his plate.
[167] Many knew a remedy for a goat's diarrhoea: 10 grams of bamboo cover and a handful of *mudi* are powdered, and divided into two doses and given once a day for two days.

medicines, others that the medicinal plants have lost their strength and do not cure well any more. Some *kobirajes* used to collect medicinal plants, now they buy. 'That art has gone', a forester said. Herbalism is more important in Simlipal, because it often is the only form of medicine available unlike in Mopani or Burupal, where *anganwadi* workers have allopathic medicines, health workers visit monthly, and the closest health clinics are 12 kilometres away. A pharmacist is a resident of Burupal, and the Burupalians often call him 'Doctor'. There is a *kobiraj* three kilometres from Burupal and 10 kilometres from Mopani, and the closest veterinary doctors are eight kilometres from Burupal and Mopani.

If a disease does not go away with household remedies, the *junglewala* may call a *kobiraj* or a *kuni*. The former uses medicinal plants to cure diseases and may diagnose diseases by testing urine with oil. The latter besides giving medicine, may diagnose diseases by distinguishing pulses,[168] knows mantras and effects of plants against *bhuts* (ghosts), and will try to drive away the disease by unseen powers, magic, incantations (using *bongas* he knows to assist him) to pacify or command the disease to cease or come out of the patient (Bodding 1986: 9-10, 14). If a *kuni* is not able to cure, the 'eaters' have gained an upper hand, and it is not the responsibility of the *kuni*. A *kobiraj* is a more empirical healer than a *kuni*, who, according to the members of the Simlipal group, 'takes spiritual ingredients from the forest with beliefs' and 'takes care of the goddesses and gods', but it is often difficult to separate the two. Moreover, there are differences in the practices of *kunis* between the *adivasi* communities. A Santal *kuni* believes that the diseases are not recovered only by worship and use roots, or may offer chickens with roots. Whereas a Kolho *kuni*, if there is any type of disease, immediately starts to worship and offers a couple of chickens. A Kolho *kuni* does not worship without drinking *handia* before, but a Santal *kuni* may worship without *handia*.

Kobirajes and *kunis* as specialists of herbalism control much of medical knowledge. On the one hand, the more specialised knowledge spreads and becomes general knowledge, the less people seek their help, and the less specialists are able to gain their livelihood from it. On the other hand, the more specialised knowledge spreads, the more self-sufficient the users of medicinal plants may become, and the greater the risk of misunderstandings in their use. Sometimes all members of the community know, but only specialists apply this knowledge in practice. Moreover, the same remedy may be general knowledge in one community and special knowledge in another. For example, the knowledge of *guguchia* against snakebite is *kobiraj* knowledge among the Mundari and general knowledge among the Kolho.[169] It is generally only men who practice *adivasi* medicine outside the household. Women may sometimes assist when men give certain medicines to women (Bodding 1986: 134). Some

[168] Some *ojhas* believe they can distinguish 23 kinds of pulses. For instance, when the pulse comes towards the thumb or the index finger, it is a sign that *bongas*, most likely *orak* (house) *bonga* are 'hungry' (Bodding 1986: 13).

[169] *Guguchia* (*saga* in Kolho and Mundari and *sagah* in Santali) is used after a snakebite internally, and externally by putting in the snakebiting place. Three roots are pasted and 1 teaspoonful is taken twice a day (morning and evening) for 2 days. This is Mundari *kobiraj* knowledge and Kolho general knowledge. According to the Santal general knowledge the root is kept in the *tabi* of the person who is affected by *dahani* (witch). The *adivasis* know a history related to it: the first man and woman came to the earth, and made *handia* with the seeds. They drank it and the following night they 'became a husband and wife'. It is not used today to make *handia*.

medicines are forbidden for pregnant women. Some foods (spicy foods or fish) are forbidden for people taking particular medicines.

There are similarities and differences in knowledges of medicinal plants between and within communities. In order to analyse who knew what, I classified 142 medicinal plants and their 397 remedial uses in relation to communities, and general and specialised knowledges. The most common knowledge (33%) was general knowledge of all three *adivasi* communities: Kolho, Mundari and Santal. Specialised knowledge was mostly knowledge of the *kobirajes* rather than that of *kunis*, which supports the principle of empirism in *adivasi* medicine.[170] In the case of *adivasi* general knowledge, it is likely that also other communities in Simlipal know and use the plants in the same way. Many residents of the plains belonging to these communities do not know as many uses of medicinal plants as the residents of Simlipal. Some remedies have been used for a long time; others are of quite recent date.

These plants are not only medicinal; many of them have important subsistence (household and food use), commercial, ritual and symbolic uses and meanings. I analysed the 142 medicinal plants in relation to other knowledges and uses: the classification of the plant, location,[171] seasonal availability, locally exhausted (11%),[172] parts used, household and/or commercial uses,[173] the edibility of plants and (household or commercial) food use, poisonous, curative, preventive, and natural indicator.[174] These different factors provide a wider context in which the knowledge of medicinal plants lives.

For the *adivasis*, a key criterion defining a plant to be medicinal is its curative (99%) rather than preventive capabilities (13% have both curative and preventive uses). I made several classifications based on which parts of the plants are medicinal. The total number of medicinal parts is 380, and includes various combinations of the parts used from the same plant. The most common medicinal part is root (27%), and much of *adivasi* medicine is root medicine (*rehef ran* in Santali). The *adivasis* believe that the roots of a plant and/or what is underground preserve their inherent qualities better than what is above ground, and exposed to all kinds of influences (Bodding 1986: 149). After root, the most commonly used are leaf (19%), bark (13%), seed (10%), and fruit (9%). Some plants were used in total. Others include a berry, branch, cord of a climber, flower, orchid, gum, thorn, liquid of the tree trunk and tree marriage. I also examined how many medicinal parts each plant

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[170] GK means general or community knowledge, and SK specialised knowledge. *Adivasi* GK 130 (32.7%); *adivasi* SK 8 (2%); Kolho GK 27 (6.8%); Mundari GK 20 (5%); Santal GK 32 (8.1%); Lohar GK 11 (2.8%); Kolho SK 24 (6%); Mundari SK 22 (5.5%); Santal SK 39 (9.8%); Lohar SK 33 (8.3%); *adivasi*, Lohar GK 11 (2.8%); *adivasi* and non-*adivasi* GK 29 (7.3%); miscellaneous 11 (2.9%).

[171] 41% of the medicinal plants grew in forests and plains, 29% in forests, 14% miscellaneous (wetland, paddy field, kitchen garden, grassland, river bank and village), 11% plains, and 4% river and stream areas.

[172] The time of them being locally exhausted varies from two to 30 years (the time the participants of the Simlipal group can remember themselves). Some residents of Simlipal said that unless the commercial consumption of several plants is restricted or stopped, many more will become locally exhausted even in the core area of Simlipal, where all collection of forest produce is forbidden.

[173] 37% (52 plants) are used for household consumption, such as house construction (10), edible and non-edible oil (10), fruits (nine), seeds (nine) and berries (four). Some roots are used as spices, to make *handia*, juice or cake powder.

[174] Natural indicators mean beliefs related to plants and animals predicting weather, rains or crops. 3% of the 142 medicinal plants were natural indicators. For instance, the Santal believe the more *sal* flower bunches, the heavier the rain and cyclones during that year; and if the top *sal* leaves fall in February, there will be good rain and harvest that year. There are two beliefs on crow's nest: crows do not usually make a nest in dense branches, but if they do, there will be heavy rain; when they make nest on top branches, then there will be no rain.

had. From most of the plants (67%) one or two parts are used, and from two plants 11 parts are used.[175] These classifications show a wide range of variation in the parts used and reveal a detailed knowledge of the plants and their parts. These 142 plants provide 351 remedies for ailments, diseases and illnesses.[176]

Morris' (1996*b*: 50-2) research on Chewa medical botany in southern Malawi classifies herbal medicines to following categories[177]: a) Good luck or *tantrico* medicines (magical properties of plants) to persuade people to be friendly, to create attraction and love marriages. b) Protective medicines to protect the individual from harm and keep away diseases. Often these take the form of *tabis* (amulet, talisman), which are attached to a string and worn around arm (women on the right arm, men on the left arm), neck or hips. Many *adivasis* use them and often mothers tie them on their children. Some medicines protect a house or paddy. For instance, *kendu* branches are used as watchers in the houses to protect paddy, when the *junglewala* beat the paddy in courtyards after harvesting. c) Medicines for reproduction to help with pregnancies and childbirth. d) Ritual medicines refer to plants that are considered sacred, and used in life rituals. e) Harmful medicines may be used for immoral or destructive purposes. Witches and *kunis* know how to use these, and this is why people fear them. f) Herbal remedies refer to plant medicines that are used to treat diseases. Morris considers 'empiricism' as the norm in folk herbalism, and the findings of this case-study support this. *Adivasi* medicine is based on empirism (and depend on the close observation of the disease-symptoms, the therapeutic value of plant substances and trial-and-error experiments) in the manner of ayurvedic and allopathic medicines, but indicates overlapping rather than clear-cut (material–immaterial or verifiable–non-verifiable) categories.

In the West somebody catches a cold or gets measles, and people refer to microbiological explanations of disease (germs and viruses), but among the Santal the disease 'eats', catches, attacks or overpowers humans. Among the Santal, the causes of diseases may be classified into four categories: natural causes, human beings (witches), *bongas*, and the ancestors (kind of *bongas*). Although the Santal acknowledge natural causes of disease, if a disease lasts more than a few days, they suspect that the natural cause is not the original one, but the evil influences are at work. Although the Santal 'make *bonga*' to please malevolent spirits and make them ready to listen, it does not bring about a recovery. *Bongas* and witches know how to 'eat' or cause distress; they do not know how to make well, which *kobirajes* or *kunis* may do. Similarly, humans are able to fell a tree, but do not know how to join the tree on the stump and make it a living tree again (Bodding 1986: 2, 7, 23, 3). The *adivasis* believe that

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[175]

Parts	1	2	3	4	5	6	7	8	9	10	11	**Total**
No.	42	52	16	14	5	4	3	3	1	0	2	142
%	29.6	36.6	11.3	9.9	3.5	2.8	2.1	2.1	0.7	-	1.4	100%

Table 6. Medicinal knowledge of the plants and their parts

[176] Most medicinal plants (79%) are available every season, 15% except during the summer, and 4% are available only during the rainy season. Most of the berries, flowers, fruits and seeds are available during the summer and rainy season. The seasonality of diseases may or may not co-exist with the seasonality of the medicinal plants. A seasonal calendar of diseases is in Appendix 9.

[177] The *adivasis* do not explicitly classify their medical botany in this way, but their medical practices include examples of these categories and have parallel practices.

there is a natural enmity between *kunis* and witches. A *kuni* tries to undo the evil work of the witches, and these try to hinder the *kuni* (Bodding 1986: 99-100). The creator god, *Cando*, is the only one who can give and restore life. He has created plants that contain remedies against all ills. The Santali-speakers say that when '*ran* (medicine) and *rua* (sickness) meet one another' a patient will recover (Bodding 1986: 3-4), sometimes with the help of *rum* (spirits, possession). A *kobiraj* in Santali is *ranrani* (one who administers *ran*). They cure by empirical means, herbal and symptomatic remedies (massage and blistering), which co-exist with their belief in the doings of the evil spirits and the significance of sacrifices. [178] In case of sickness raging in the village, the Santal headman performs *Mak' more*: he vows animals to *Moreko-Turuiko* in return for their removing the disease. When the epidemic is over, sacrifices are made in the *jagarthan* (Archer 1974: 31).[179] The Santal view of medicinal plants combines material and immaterial aspects.

Some *junglewala* made a causal connection between working hard and getting ill:

> We work always hard, and get different diseases (a 35-year-old Santal man, Burupal).
> We live because of the medicinal plants of the forest. If there're no medicinal plants, then we're already dead (a 35-year-old Mundari man, Kukurbhuka).

An effective allopathic medicine may replace some *adivasi* medical practices, but does not necessarily replace consulting of diviners to guide human actions and provide meaning (Tambiah 1985: 84). The Santal accept evil and malevolence as part of the life processes and use ritual, prayer, medicines and invocations as possible cures, as social defence (Mahapatra 1986: 91).

Forest foods

The forest does not merely heal; it cooks. We were doing the vegetation monitoring in the natural forest, and a Sadgup man was our expert; he told the species and we did the counting. He said

> This is our food. You [forest] cook for us and we eat (a 34-year-old Sadgup man, Burupal).

The *junglewala* conceive forests as cooking foods for them with the power of the sun-god (Chapter 9). For the *junglewala*, the heaven and earth are universal parents. 'We know how to get food', a Burupalian said. *Junglewala*'s knowledge of forest foods includes knowledge of their seasonality, where to find, how to prepare and cook, and diverse household and commercial uses. Foresters' knowledge of forest foods and medicinal plants is restricted to commercially used species. Foresters' try to enforce the forest and wildlife laws prohibiting their collection and hunting.

Some forest foods are ready to eat, such as berries, ripe *bel* (unripe fruit first boiled) and *kendu*. Other items need processing or cooking: some are first dried in the sun, then powdered (many

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[178] The Christian *adivasis* usually do not believe in spiritual uses of medicinal plants. They 'don't believe in *bhuto*, they are missionary', said a member of the Simlipal group.

[179] Also a tree can heal. According to Santal general knowledge, if a person has *godo fata* disease in the soles, s/he takes old sandals to a *mankad picchila* tree (*mankad* = monkey is not able to climb the tree, the trunk is plain) on Saturday evening. S/he says: 'You're my friend. I give a pair of shoes to you that you gave to me'. The following morning the person goes back to the tree, and asks the tree to give new sandals so that feet do not become rough, and the disease will be cured.

medicines), others are boiled (tubers, *mahua*), and others are roasted (*siali* seeds). Although there are differences between households, and availability in the plain and hill areas, a food calendar shows seasonal variations in forest foods especially in *adivasi* diet. In January-February people live on their production of rice (or from paddy pay working as daily labour) and may collect medicinal plants (especially *myrabolan*) for sale. In March, April and May people live on fruits (*bara, char, kendu, kusum*, tamarind), leaves, mango, *mahua*[180] and may collect honey. In June, July and August they live on mushrooms, tubers, and fruits of *bel*, guava and jackfruit. In September and October they live on leaves, arrowroot and tubers. In November and December they live on rice and may collect resin, gum and *kaipoko*.

A food calendar and seasonal calendars of agricultural and forest produce provide some idea of the importance of forest foods in the diet and livelihood of the *adivasis* in Mayurbhanj (Appendices 2 and 3, which we did with the Simlipal group). These annual cycles are chronological devices that enable to investigate seasonal and workwise variation how nature is appropriated. For cultivators, the busiest time is from June to December, and for *sabai* rope-makers, the busiest time is summer.

Next some examples of common forest foods.[181] There are non-edible (*paga*) and edible mushrooms (*chhatu*). *Pagala manusya* means a mad man and *pagali streeloko* a mad woman – people who eat *paga* become/are mad. Most *paga* are available throughout the year, whereas many *chhatu* are available during the rainy season only (June-August). Bodding (1986: 463-4) lists 31 species of mushrooms that the Santal eat, but the most commonly used are less. Mushrooms grow in cowdung, white-anthills, and decayed leaves, straw and trees. Herders and the *adivasis* mostly collect mushrooms for household. Businessmen of Jashipur bought white *kan(ha)* ('ear'; it looks like ear; Rs. 2/kilogram) and red *kan* mushrooms (Rs. 10/kilogram), and sold them to Calcutta and Tata in 1997. Commercial cultivation of mushrooms and their processing could generate more income to some households in the future.

There are many kinds of *jungle alu* (forest potato; tuber, non-literal translation), which are mainly available during the rainy season. Mainly *adivasis* collect them for household consumption, and some also for sale. Mushrooms and tubers are plentiful in the hill area, but in the plains their quantity varies. Another common *adivasi* food is arrowroot, which is made from tubers of *palhua* mainly collected by the Kharia in September, October and November. After cleaning it is soaked in water overnight, then ground. The liquid is put into an earthen-pot with water, filtered through a cloth, and kept there overnight, and it becomes like a cake. It is filtered again and after drying the cake it is sold (Rs. 60/kilogram). Another food which the Santal like, is *sajana* leaves, which are prepared as *sago* with oil, garlic and chilli, and may be fried together with its stick-like fruit known as 'drumstick'.

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[180] Sweet flowers of *mahua* are eaten raw, cooked and preserved dry for later use, and to make alcohol. The seed of *mahua* fruit is a source of oil. *Mahua* 'trees are like our adopted kins; we take care of them and they give us our sustenance' (an informant told Parajuli 1996: 17-8).

[181] Bodding (1986: 465-471) lists 82 forest produce that the Santal eat.

Both *pal(h)ua* and *sajana* have also medicinal uses.[182] The sap of palm trees (palmyra, date, coconut and sago palms) is used as candy, molasses, sugar, and *neera* drink.

Many seeds are collected to make oil, and are used as food (*mustard* oil for cooking), medicine (laxative, massage, against skin diseases), cosmetics (*kusum* and coconut hair oil, a common conditioner), lamp oil or as lubricator. Bodding (1986: 454-6) lists 16 oil-yielding plants that the Santal use. *Char, kendu, mahua, neem* and *tulosi* are common oil-seed species in the plains, and used also commercially. Oil is extracted with machines in factories, but in villages oilseeds are pressed with wooden logs (Majumdar 1955: 39). An external medicinal use for mustard oil is to massage a baby twice a day to make the bones strong.

Some *adivasi* boys and men hunt birds (birds' eggs also), rabbits, rats and insects. Insect-hunters can hunt *kaipoko*-ants throughout the year, although the peak is in December-January.[183] Their nests are in trees; *kaipoko* wrap the leaves together to be their nests, which are difficult to spot from the ground for untrained eyes. Insect-hunters climb the trees, drop the nests to the ground, and kill *kaipoko* by shaking them harshly in a basket. *Kaipoko*-chutney is prepared with salt, ginger and chilli. It is especially fed to a patient recovering from a fever and having no appetite.

Adivasi men collect honey during summer, and can get 8-10 kilograms of honey from one nest (Rs. 50/kilogram in 1997). Although they use fire to drive the bees away and may collect them during the night, several bees sting the collector. Usually they collect honey in a group of eight persons, and may get 35 kilograms per day. Honey collection is sustainable, if the collectors do not collect too much, and do not destroy or squeeze hives and destroy the reproduction cycle of the bees. Honey collectors complained about the reducing quantities of honey, and Bakhla (1996: 79) blames 'biotic interference' for this. The Orissa Forest Development Corporation collects, bottles and sells honey. A family with eight to 10 bee-boxes of *Apis cerana* bees can have an additional income of Rs. 1,000-1,500 per annum (Ghosh 1993: 209).

Forests provide fodder to feed domestic and wild animals. *Go khadya* (cow food) is easily available in the hill area, but in the plains especially during the summer is often scarce. Some collect grass and branches, and few do stall feeding with husk and hay during the summer. Common fodder are *amla, asan, bel, char, gambhari, harida, kantakoli, kasi, neem, piasal, ramdantun, sal,* and *satabari* (Appendices 4 and 5). Apart from the domestic animals, wild animals need fodder and water.

From the case-study of medicinal plants, 26 per cent (37 plants) are used as food. Different parts of the plant may be edible, or they may be edible only when they are ripe or cooked. The most

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[182] According to Santal general knowledge, *sajana* (*munga* K,M,S) is used for indigestion: a handful of leaves is put inside *sal* leaves and the *sal* leaves are put on the fire, and cooked until it becomes brown (*potua* cooking system). A tablespoon is taken once a day for 3 days. According to Mundari general knowledge, 2 fingers of bark are pasted and used on snakebite place. According to *adivasi* general knowledge, if any snake comes to the house, *sajana*-root is smashed and some water added and thrown to the house to make the snake come out.
Palua (*pal*, S) has several uses according to to *adivasi* general knowledge. a) To reduce the 'heat' of the stomach, *palua* is taken as a juice. During summer people drink it in the afternoon. b) Those suffering from diarrhoea or dysentery eat root as food (as barley). c) 1/ 2 handful of *palua* is mixed with water and a glass is taken twice a day (morning and evening) up to 4 days against venereal diseases. It relieves belly pain.

[183] *Kaipoko* is also called *kurkuti* in Oriya, *hau* in Kolho and Mundari and *hao* in Santali. *Hao* is the sound of pain, since these ants sting.

common parts used as food are fruits (11 plants), seeds (6), fruit and seed (1), leaves (4), berry (4), root (4), bark for tea, tubers and young bamboo shoots. 37 per cent (52 plants) of the total are used as food for market consumption. Although most of them are non-edible, they are not poisonous (92%, 131 plants). Poisonous medicinal plants may be used to counter the poisons in the body, for example after a snakebite. Unripe or uncooked plants may be poisonous, or they may be poisonous for eyes, or when taken internally. Few poisonous plants are used to catch fish. Poison from certain fruits are thrown into the water, and the fish get intoxicated and float to the surface. The *junglewala* said that they have learned about poisonous effects by watching what happens to animals using them.[184]

Another example of forest foods is *handia* (fermented rice-beer; 'furrow-water' in Santali). *Ranu* is a ferment mostly made from *akanbindu* and *patalgaruda* roots (sometimes bark) to brew beer. *Handia* roots are known as *ranu ran*, 'medicine of medicines' in Santali. Especially during festivals, most *adivasis* drink *handia, rosi* (filtered *handia*) and *mahuli*-liquor.[185] During harvesting time *handia* is used as remuneration. Originally *handia* was used in ritual occasions as a sacrament after offering it to *Maranburu*, and this is a continuing custom. The Santal also offer libations to the ancestors so far as they are known. They pour little *handia* onto the floor inside the house, but not in the *bhitar* (private family shrine, domestic altar) for each ancestor (Bodding 1986: 495). Although *handia*-drinking is part of the networks of sociality, and collective drunkenness expresses group identity, it is a controversial issue among the Santal. Raghunath Murmu argues that drinking *handia* except on ritual occasions is improper. The Christian *adivasis* do not drink; the Adventists being most strict about this.

> [Those] who aren't interested to drink become Adventists (a member of the Simlipal group).

Another group lead by Sashibhusan Marandi, argue that *handia* is to the Santal what tea is to the *Dikus*, and it may be drunk often.[186] Budhikhamari area is liquor-dominated area. Men drink more than women, since drunken women are associated with loose behaviour.

> *Handia* first, then the *puja* (several Santals, Burupal).
> *Handia* is my water (a 25-year-old Santal man, Burupal).

There are 'wet' and 'dry' villages, which may express majority decisions of the villagers. For example, after wildlife destroyed paddy in a village in Simlipal in 1995, an old Mundari-man saw a dream that if people drink *handia*, wildlife will destroy paddy, and it has been a 'dry' village since then. In Burupal some young men were starting a youth club to aware villagers, for example of the dangers of drinking. In *haats, handia* is sold as any other drink, and the central government attempts to impose revenue on

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[184] *Karabira* tree has two sides: one side is poisonous and another is not. 'You've to watch the tree. If a bird dies after eating from it', the tree is not touched. According to the *adivasis*' general knowledge, before face washing on Sunday morning, a *karabira*-seed is put around the waist of a crawling child to stop him/her eating earth.

[185] People used to drink only *handia*, which is cheaper and less harmful than *mahuli*.

[186] The Mundari attribute drunkenness to the tree from which the root fermenting *handia* is taken. They believe the tree first originated in the graveyard of Sandhubaba (mendicant). The tree provides home for birds, tigers and boars, and the root of the tree has taken the qualities of the animals and Sadhubaba himself. These qualities influence those who drink *handia*. In the beginning people sit like Sadhubaba, during the first cup they talk like main birds, during the second cup people talk like parrots (faster and higher pitch), during the third and fourth cup people roar like tigers. After the fifth, and when overdrunk, they behave like boars (Ram Dayal Munda quoted in Parajuli 1996: 30).

handia-brewing (Parajuli 1996: 30). A Christian NGO activist said '*Handia* is not liquor, it is their food'.

Although I did not assess the calorific contribution of forest foods to households, these foods are of great importance and provide a safety net for many trying to keep hunger away and feed their animals. The *junglewala* compensate for rice scarcity with forest foods that provide dietary supplements, and additional nutrients and vitamins to a rice-based diet. 'Even *sal* seed they take', a forester said with amazement. Although forestry alone cannot alter many social, economic and political factors, it can strengthen household food security. For forest-dwelling *adivasis* forest foods are good to eat; for caste communities, an extensive use of forest foods is a sign of poverty. Many *adivasis* said

> How can we live without the forest?
> The forest is our *handi* (rice).

Forest foods provide nourishment, income and thoughts.

Chapter 9. Images and symbolism

'The society, people and *jati* come from the forest'

This section begins with a long Santal myth of the creation of the soil/earth, *handia*, Santal society, and *sarna dhorom*. Gudra, a Santal member of the Simlipal group, Kusumtata, told this myth.[187]

> Before the creation of this earth, there was only water and sky, and no plain land. Two sacred souls, *has* (goose) and *hasili* (gander; *hasa* = earth, soil), were flying in the sky. A god named *Thakur Halam* (old male god), also known as Singbonga, (Sin) Cando (creator, the sun, supreme god), had a bath in the river, and two hairs from his chest fell into the water, which were called *dubo* grass.[188] The grass moved in the water, and the flying souls took rest on it. After some years, a long *karam* tree grew on the grass, and the birds rested on the tree. After some years the birds made a nest on the tree, and hatched two eggs from which two humans were born. When the god saw the children, he became happy and sad. He was sad, because there was water everywhere, he did not know where to keep the children. *Thakur Halam* declared to all creatures that who is able to bring soil under the water will become the king. First a shrimp said that it will be able, but the soil it was bringing became liquid in the water. When the shrimp reached the god, there was not a single piece of soil in its hand. The god pushed the shrimp into a *kathau* (wooden shoe), and it became its shape.[189] The god asked 'Who will be able to do it?' A tortoise decided to try, dug some soil and put it on its back. When it reached the god, there was not a single piece of soil on its back. *Thakur Halam* became angry with the tortoise, and the tortoise started to run quickly, and the god said 'From this day onwards you won't be able to run quickly'. The tortoise asked 'If any dangerous wild animal will attack me, what will I do?' The god said 'If they attack you, you can hide under the cover of your body'. Then an earthworm wanted to try. The god asked 'If you don't succeed, what kind of punishment do you prefer?' The earthworm answered 'I'll face the same punishment as the two children who are sitting on the tree'. The earthworm said 'If the tortoise is allowed to come with me, then I'll be able bring soil to you'. The earthworm went under the water, ate some soil, and then went to the tortoise and vomited the soil on its back. In this way, the earthworm brought the soil from the water, and created the earth.
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> When the soil became dry, *Thakur Halam* put the two children on the earth. One of them was a boy and another was a girl. They were not able to cultivate and ate forest foods. They collected *manji chaula* (rice from seeds) from *guguchia* grass. One day the god came to see them, and asked 'How are you behaving with the girl?' The boy said 'I behave with her as she is my sister'. The girl said 'He's my brother'. *Thakur Halam* thought that if they live like a brother and sister, how will the next generation come? One day he brought them some dry dung of a hare, and asked them to put it in the boiled rice, and drink the liquid of the rice and dung after three days. After three days they drank it, became drunk, and behaved like a husband and wife. Next day the god came to see the boy, who was ashamed and not able to talk with the god. *Thakur Halam* said 'I know what you've done. Don't be ashamed. I advised you to do so to have a next generation'. From that day onwards, the boy was named *Pilchu Haram* (*pilchu* means first father in Santali; *har* means bone in Hindi; also called *Pilchu Halam*), and the girl was called *Pilchu Budhi* (*budhi* means old, wise in Oriya). *Pilchu Haram* is *adi pita* (first father) and *Pilchu Budhi* is *adi mata* (first mother).[190]

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[187] This discussion focuses on the Santal, but many features of this origin myth are shared by three closely related tribes, the Ho, Kolho and Mundari, who speak related Mundari languages and live with them.

[188] Nowadays, the Santal use *dubo* grass during marriage ceremonies and *Kali-pujas*, cattle-exchanges, and as a medicinal plant for wounds, insect bites, headaches and to stop a baby crying.

[189] Generally people did not wear shoes, but if they did, they wore *kathau*.

[190] This myth has similarities with other communities. For Hindus, Kali is the first mother. For Christians, Eve is the first mother and Adam the first father. In this case it is not a fruit (from a forbidden tree), but a dung of a hare in fermented rice

Later *Pilchu Budhi* and *Pilchu Haram* had seven girls and seven boys. When they had grown up, they thought how to marry them, and asked *Thakur Halam* 'You've sent us to the Earth and arranged our marriage. How shall we arrange the marriage of our sons and daughters?' *Thakur Halam* came to the Earth and told *Pilchu Haram* to take the sons with him to Sinjbir, and *Pilchu Budhi* to take the daughters to Manbir, and went away. *Pilchu Budhi* and *Pilchu Haram* stayed in Sinjbir and Manbir for 50 years. After 50 years in the night *Thakur Halam* told *Pilchu Haram* to go hunting with his sons, and *Pilchu Budhi* to pick leaves with her daughters. Then the sons and daughters reached the same forest called Chaichampa, and took rest in different places during the night. *Pilchu Haram* told *Pilchu Budhi* that their sons and daughters would make marriage arrangements among themselves. Next morning the sons asked their father 'Who are these women?' Their father replied 'They are my *bahus*' (daughters-in-law). The sons asked their father 'What is the meaning of a *bahu*?' Their father said 'Without a woman, no man is able to live in this society'. *Pilchu Budhi* gave a parallel answer to her daughters. Then they were married at Chaichampa.

After some years, the clan of this family had spread. From the new clan, some had *uccha gyan* (developed knowledge), others had *kam gyan* (less knowledge), so there was a difference between these groups. Then there was a war in Chaichampa, and *Pilchu Haram* came with the Santal to Sinjbur. On the way, there was a big hill called *Maranburu* (great mountain) and people became tired and were not able cross over it. *Pilchu Haram* said to *Maranburu* 'Please, make us able to cross this hill, and we'll worship you'. Then they crossed it and reached two *sal* forests, Chirunai Sal and Bahanai Sal, where *Pilchu Haram* and *Pilchu Budhi* gave the Santal-caste to their granddaughters and -sons. They came to an area where wild animals stayed called Hihili-Pipili. When *Pilchu Haram* and *Pilchu Budhi* saw animals, they asked their grandchildren to prepare water colours of black, red and white. They advised their grandchildren to climb on the top of the house with the colours, and when the wild animals pass the house to throw the colours on them. The animals touched by the colours were called domestic animals, and the animals untouched by the colours were called wild animals. When they stayed in Hihili-Pipili, the war of the *Mahabharata* was started and the adults went to the war for *Pancha Pandav* (five brothers): Judhistira, Arjuna, Bhima, Nakula and Sahadev.

After 150 years, the children had become adults, and said '150 years have passed and our parents were not able to return from the war. How do we observe our rituals and worship?' They called a big meeting, and decided that perhaps their parents were killed, so now 'we'll search for our *dhorom*'. Some people asked 'How shall we search for it?' An old man said 'Let's prepare a bullock cart [with 12 wheels] from long branches of *gandhari* tree [Gandhari is the mother of Pandav and Kaurav], and the person who'll become *dehuri* will sit on the bullock cart and shoot an arrow with a bow towards the sky. Where that arrow will fall will be our religion'. Oxen, decorated with moon and *caunwar*,[191] pulled the bullock cart, and a *dehuri* shot an arrow. The first arrow fell near *jali* tree, the second near *bara*, the third near *mahua*, the fourth near *kendu*, and the fifth arrow fell near *arjun* tree. Then an arrow was shot, but people did not see where it fell, and searched for that arrow. After some time, a woman found it and shouted 'This one I got'. Another woman asked her 'What did you get?' She answered 'I got an arrow'.[192] The arrow had hit a *sal* tree, and they put a thread three times around the tree. On the way back to the village with the arrow, they discussed among themselves 'we already got our religion, but how do we worship'. At the time of discussing

(first version of *handia*) that caused a man and a woman to change their behaviour. The god did not consider the change in their behaviour bad, but encouraged it with the drink to have another generation.

[191] *Caunwar* is a broom made mainly from horse hair. It is in every Hindu temple. People use it to worship gods and as a handfan to give air.

[192] It is from this that *sarna*, the name of the Santal religion derives from. *Sarnanj njam kewa* (I got an arrow). *Sar(a)* or *tira* means 'arrow'.

> this, the persons who went to the war 150 years ago returned and asked 'What are you doing here?' They narrated the incidents. The old men decided 'Since it was *Maranburu* who first gave scope to our forefathers to come here, we'll worship him with white hen. We'll worship *Pancha Pandav* with *rangua sandha*' (fighter hen used in cockfighting). When they had decided all this, one *Pathan* (a Muslim) came. He said 'You've done everything fine except for one thing, you've left out one god'. They asked 'What is the name of the god and how shall we worship him?' He said 'The name of the goddess is *Jaher Era*. We worship her with red chicken, but you should only cut half of the chicken's neck'.

This myth (embedded with distinctions) interprets life and reveals conceptions, experiences and reasons for certain types of behaviour. It includes Santal cosmogony and anthropogony.[193] *Thakur*, the Sun god, is the giver of life, rain, crops and all other necessaries. The first Santal mother and father were born from a bird's eggs.[194] A small animal, earthworm, together with an animal of slow motions, tortoise, was able to make the earth.[195] The god encouraged to drink the first version of *handia* and have incestuous sex to have a next generation. *Handia* was god's gift, and the Santal offer *handia* as libation. It presents the division of labour: men hunt and women pick leaves. With the spreading of the clan, there was differentiation: some had more knowledge, others less. People got over a big hill with the help of *Maranburu*, and the old men decided to worship him. Some animals were domesticated by throwing black, red or white paint on them. Wild animals may be of different colours. *Karam* is a sacred tree, and should not be cut. The Santal searched for their religion with an arrow, which fell on a *sal* tree. The Santal worship *sal* trees and think that the more *sal* trees, the better. This myth reveals the value of the land, birthplace, forest, and lays the basis for Santal clans and *sarna dhorom*. Up to Hihili-Pipili the myth describes only the Santal community, and then different cultural elements come in. The Hindu epic has become part of the Santal myth and folklore. (The Santal also sing parts of the Ramayana in Santali.) The earliest settlements like Hihili-Pipili and Chaichampa lie on the north-western frontier of Hazaribag. Hindu immigrants from Bihar drove out the Santal eastwards (Risley 1915). All the places mentioned are in Santal *Parg(h)ana*, which is similar to the Jharkhand area.

Although the Jharkhand movement can be seen as a revitalisation movement, some *adivasis* said that a few leaders of the Jharkhand invented the story of shooting an arrow to create unity among the *adivasis* in the 1980s. Some *adivasis* argue that first there was no *sarana*; it was created by the elite of the *adivasis* to create distinctions from non-*adivasis* (because exploited). They have two main tools to struggle against the non-*adivasis*: word system – non-*adivasis* are called *Dikus*,[196] and *sarana* was developed, because Christianity and Hinduism are trying to change the *adivasis*. *Jhahira* (being closely connected with the settlement; offering and worshipping place) is from the beginning, and

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[193] *Binti* is the Santal song of the creation myth, the song of cosmology, and recited in weddings at the bride's house. *Binti* puts the individual occasion in a wider context of society and tradition (Mahapatra 1986: 146).

[194] The ancient ruling families of Mayurbhanj, the Mayuras and the Bhanjas, are also believed to be born of birds' eggs.

[195] An example of a song that refers to the origin myth: 'Up above the sky are sun and moon / at the bottom of the earth, is the tortoise / On top of it rests the earthworm. / It is the earthworm which made the earth' (Parajuli 1996: 7). For Hindus, tortoise is sacred, since Vishnu appeared as a tortoise in the *Satya Yuga* (first age). Vishnu has many animal incarnations that appear to restore a balance in the universe.

[196] A non-*adivasi* explained this by using a proverb, *chor caudeichhi choroko* (thief follows thief; *chor* = more serious thief; *choroko* = thief): I steal something and then someone shouts after me, and then I start to shout the thief is going to create a false situation.

sarana (sacred grove religion) was created in the middle of 1980s. Be this as it may, not all *adivasis* support the Jharkhand movement, and there have been conflicts, for instance, between Christian *adivasis* and the Jharkhandis due to worshipping on different days and in different ways.

How do the Santal clans relate to myths and forest distinctions? The social structure of the Santal is reflected in the Santal origin myths, and relate to the classification of plants and animals and to the activities of totemic clans. According to the Santal myths, the first human couple divided the Santal into 12 ancestral clans based on various adventures, which are sometimes connected with the clan name and totemic food abstinence (Culshaw 1949: 67-71). Out of the 12 Santal clans seven live in Burupal. The clans are totemic in nature and exogamic in character. Patrilineal clans worship their *bongas*, and in most rituals village and *paris* are interchangeable. The Santal use these clan names as surnames.

***Kili* (branches), *paris* or totemic clan name which hinduised Santals and Oriyas call *gotra* (lineage)**	**English equivalent; the activities of the *pari***
Hansdak, Hansda (the original clan)	wild goose; live long
Murmu	bison, the leaves of *murup'* (*polas*); worshipper
Kisku	kingly
Hembrom	*betel*-nutpalm
Marandi[197]	a grass; *mahajan*, richest person
Soren	the pleads; soldier
Tud(d)u	a fish, kettle drum, a kind of eel; merry maker
Baske	breakfast of stale food
Bes(h)ra	small hawk; beauty care group, dancers who take care of daughters and sisters
Pauri(y)a	pigeon
Core, Ceral	lizard
Bedia, Bedea (does not exist today)	sheep

Table 7. The totemic clans of the Santal (Gautam 1977: 79-80)

Often *adivasi* social organisations are represented as egalitarian, and compared to the Hindu social stratification may appear so, but there are internal status differences: status differences of clans (traditional), status differences of men and women, the aged and the young (traditional and modern) and educational differences (modern) within *adivasi* communities. According to Skrefsrud (1942), the Santal were first divided into seven original clans (Hansdak, Hembrom, Kisku, Marandi, Murmu, Soren, Tuddu), when they lived in Hihili-Pipili. The others (Baske, Bedia, Besra, Core, Pauriya) are additional clans. High clans are conceived to be Hansdak, Hembrom, Murmu and Soren. Middle clans are Besra, Kisku, Marandi and Tudu. Lower clans are Baske, Bedia, Core and Pauriya. These clans are

[197] Different *gotras* have their *gotros* (totemic plants and animals). For example, if *mirubaha* (*sunari* in Oriya) tree is in the Marandi courtyard, the Marandi will not touch it, but call other villagers to dig it up with the roots and throw it to the river. The Marandi do not kill a *boda* snake. According to a myth, when a child was drinking mother's milk, the mother fell asleep and a snake put its mouth of the nipple of the breast, and its tail to the mouth of the child. If a child's tongue is black, Marandi and Mohanta communities believe that a *boda* snake has come to their family, and will ask someone else to kill it. Another belief related to the boda-snake is that if it is in the grain, the grain will increase.

further divided into subclans or lineages.[198] This stratification process is likely to have occurred when a clan-group expanded. The Santal clans and subclans are named after their original founder, habitation, totemic plant or animal, or a special type of behaviour or activity in which their founders lived or worked (Gautam 1977: 83). Ancestor worship and totemic clans are ways to emphasise the interrelatedness of the living and the dead: ancestors are elders who are no longer alive but still present. Totemic clan organisation does not indicate the living–dead, living people–ancestral spirits or nature–culture dichotomies.

The local lineage is a group of patrilineal male kinsmen, who tend to live few kilometres apart, and who worship and celebrate festivals as a unit. The patrilineal, patrilocal extended family is a distinctive economic and ritual social unit, which may live in a single house-site, or separately as nuclear families. Land is conceived to belong to the clan, and because women marry out of it, women cannot inherit land. Inheritance remains in the same agnatic line in the long term. The Santal call this arrangement *ghar-jawae babla*, 'house son-in-law marriage' (Parkin 1992: 51). Marriage is a village affair. After marriage, the residence for men is usually patrilocal, for women virilocal.

Santal spouses are acquired through negotiation, love(-marriage), elopement, 'capture' (if family members disagree, a man may 'capture' the willing bride to get their way),[199] 'intrusion' (a woman may intrude into the house of the parents of a young man on whom she has set her affections), through force, *iputut'* : the forcible application of vermillion to the forehead of a woman, which may feel like capturing to a non-willing person (Archer 1974: 150-7). To have a respectable marriage, *sindurdan*, 'vermillion gift' (*dan* = gift in Oriya) should be formally smeared in the parting of the woman's hair so that her *bongas* are replaced by those of her husband and she can henceforth assist him in their worship. *Sindurdan* is possibly a substitute for blood, and implies a blood communion.[200] A *dol bapla* (a wedding with parties, non-literal translation) should follow, including the building of a shed of a canopy of *sal* and *mango* branches, and *dehuri* making sacrifices in the *jagarthan* (Archer 1974: 174). The following morning at cock-crow a 'water marriage' is performed, where arrows are first stuck in a little hole, pots of water are poured over them and the tips of a bow and a sword are then plunged into their midst (Archer 1974: 139, 178). 'Water marriage' refers to the water of the penis. An arrow symbolises a potent lover, and 'feathers' a wife or clothes (clothes also expressed as 'fence'). The proverb 'A feathered arrow drives straight' means that a marriage keeps a husband constant (Archer 1974: 48).

Some Santal relatives have a joking relationship between them; others have to honour each other (Archer 1974: 79-82). The Santal disapprove of kin, clan and 'flower' friendship incests, intercourse and eating with the *Dikus*, eating with forbidden relatives, and contact with tabooed

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[198] Orans (1965: 11) points out that although *khu(n)t* (pole, line) and *khond* are used in literature, there is no word that designates 'subclan'. It is not possible to ask a Santal 'What *khond* do you belong to?' To find out what subclan a Santal belongs to, one first determines his/her clan and then places the interrogative 'what' (*cili*) before the name of the clan: *cili Hansdak*!

[199] Santal children play a *bahu-chori* game, where they capture *bahu* (bride, daughter-in-law).

[200] Girls of different communities often keep *tika*, red tickles (spots) in their forehead to make them beautiful, as jewellery, and as an indication of them becoming future wives.

kinsmen, since they pollute the village *bongas*.[201] The offenders are fined, outcasted and *bitlaha* ceremony is made (Archer 1974: 85-90). The greatest offences for the Santal are the violation of tribal endogamy (an *adivasi* woman molested by a non-*adivasi*) and clan exogamy, and those who disobey these, are expelled from Santal society with *bitlaha* (*bital* = outcaste). *Bitlaha* is a punitative mass gathering of major *adivasi* offences, a punishment of the wrong-doer, severe ostracism, outcasting to keep the moral values of the society (Ray *et al.* 1982: 18). There are bars to intermarriage between some pairs of Santal clans (Parkin 1992: 56). If people marry against the marriage rules, unfortunate things are expected to happen, such as the untimely death of the bride if Marandi and Besra marry. Each sub-clan has a name, and marriage between within the subclan is 'even more severely punished than marriage within the clan' (Orans 1965: 11).[202]

> *Samajar, lokomanakara, jati jungleru aasichhi.*
> The society, people, *jati* come from the forest (a Kolho member of the Simlipal group).

> Once upon a time, all *adivasis* belonged to one *buda* (group). It was raining at the time of the division of the different *jatis*. Those who went under a *sal* tree to escape from the rain are called the Santal. Those who took shelter under a *nalnali* (*siali* climber) are called the Kolho. Those who took shelter under a *muruda* (*polaso*) are called the Mundari. Those who took shelter under a *mandbuda* (bamboo) are called the Mahali (their traditional profession is basketry; a Santal member of the Simlipal group).

This myth emphasises the unity of different *adivasi* communities as deriving from one group. It also shows them as plant-oriented communities, whose names derive from plants under which they took shelter. Nevertheless, among themselves the *adivasis* do not usually refer to themselves by tribal names, such as the Santal, which is used by neighbouring communities to denote to them. The Santal were called *Kherwars* before they settled in Saont country in the Midnapore District. According to Skrefsrud (1873), the word Santal derives from the Saontar, and was given to the tribe, because they live for many generations in the Saont or Samantabhumi, modern Silda Pargana of Midnapore District in West Bengal. The Santal refer to themselves as *Hor* (a Santal). Naming is part of identity construction. Most indigenous peoples are known by names given to them by the dominant community or by the colonial power. This is why naming forms part of the struggle for political rights and institutionalised names are contested.[203]

Orans (1965: 124) describes the Santal with the theory of the rank concession syndrome, which means the acceptance (in varying degrees) of social inferiority. In Marriott's (1955) terms, there is a flow upward from the little community to the centre (universalisation currently termed globalisation), and a flow in the reverse direction (parochialisation currently termed localisation).

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[201] 'Flower' friendships among boys or girls are non-sexual, and combined with responsibilities and obligations of a lifelong friendship.
[202] To other *adivasis*' annoyance, Christian *adivasis* often marry Christians, who may be from a different tribe, or against the rules of (sub)clan exogamy. Similarly, Christian general castes often marry Christians, who may be from a different caste.
[203] For example, the Saami and the Inuits discarded the old names Lapps and Eskimos, which were given to them by their colonisers and carried mainly negative connotations (Karlsson 1997: 232-3). Sainath (1996: 15-9) tells about the Dhurua *adivasis* in Orissa, who lost their Scheduled Tribes status because of an administrative mistake. Their name had been listed as Dharua instead of Dhurua.

Transformation occurs at both levels. Orans' (1965: 139) rank concession syndrome theory suggests that solidarity pressures maintain the two distinct traditions. According to the configurational theory of borrowing (Benedict 1935), what a culture borrows either 'fits' its configurations or modifies it to fit. The Santal absorption of Hindu orientations and antipathies show that even configurations can be borrowed (Orans 1965: 149). The Santal have not rejected Hinduism, they have manipulated it. They do not equate Hinduism with Brahmanism. For instance, they have adopted Hindu deities, but they have not adopted the Brahmanic values of pure and unpure, and do not necessarily reject *adivasi* practices, such as meat-eating and liquor-drinking. A parallel syncretic process is happening with Christianity.[204] Even in the origin myth of *sarna dhorom*, there are elements of *Diku* religion, such as *Pancha Pandav,* oxen decorated with *caunwar*, and a Muslim who advised a different way of killing a chicken. Instead of Orans' rank concession syndrome, Panchbhai (1982: 50) refers to the rank imposition syndrome: a subordinate group is imposed a specific rank, and it is this imposed rank that the Jharkhandis aim to change, and revitalise previous customs.

Hor and *Diku* identities

The relationship of the *adivasis* to the environment is constitutive of what it is to be a *hor* (an *adivasi* person). The Santal refer to themselves as *Hor* or *Hor hopon* (sons of man). *Hor* cultivate *horo* (paddy). Marriage joins a *hor* (a person, human being; way, path) to a *jor(a)* (a pair). The Mundaris call themselves *Haro-ko* (men), their race *horo* (man) and mankind *horo honko* (the sons of man) (Roy 1970: 207). The notion of *Hor* is juxtaposed to the idea of *Diku* – a person who does not uphold the *Hor* values. The *Hor–Diku* distinction forms part of the *adivasi* identity.[205] After a death, the Kolho try to see from the ashes the deceased person's next life form. If there is a footprint of cat or dog, the witch has taken the soul. For the Santal, those who have the soul of a cat or dog, and are ready to quarrel with anyone (Bompas 1989: 408). For the Santal, *Dikus* are cats. In Santali, 'A *diku* cat, a bush of thorns' and an enemy is 'a thorn in the eye' (Archer 1974: 41). *Diku* is a pan-Jharkhandi word and refers to outsiders who are in antagonistic relationship with the *adivasis*.[206] Gunsi Soren, a Santal ecological activist, sees that the old triumvirate of *sarkari* (persons related to the government), *sahukari* (merchants and moneylenders), and *zamindari* (landlords) is currently reproduced as industries, mines and development projects (Parajuli 1996: 5-6). The introduction of money economy, wage labour and more democratic governance made the Santal aware of their position with the *Dikus*

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[204] Some argue that when the *adivasis* become Christians, they become less respectful toward nature, discard various restrictions and have fewer *jhahiras* (Gadgil and Guha 1995*a*: 73-6; Boal 1982: 235-7). Others argue that Christianity has not had any direct effect on their ecological practices, as among the Rabha (Karlsson 1997: 174). In Mayurbhanj, there are relatively few Christians, and the *junglewala* syncretise several religious practices, so that Christianity is not a major factor affecting *junglewala*'s forest practices. A Mundari member of the Simlipal group said, 'They're acting that they're Anglicans, Lutherans or Adventists, but the inner heart is Mundari religion'.

[205] Bodding (1934) translates *deko* as 'a Hindu or Bengali of the better class, not low-caste Hindus, e.g. Domes, Bauris, Hadis. Mohammedans are not called *deko*'.

[206] The evolution and meaning of the *Diku*-concept run parallel to the concept of Jharkhand as a regional movement (Singh 1996: 86, 89). Although the Jharkhand leaders (insiders), represent the *adivasis*' forest relationship as harmonious and reciprocal, and cling to the essentialist notion of identity, the identity of the Jharkhandis has changed and been extended to non-exploiting *sadans*. The Jharkhand movement has transformed from an exclusively *adivasi* movement to an ethnoregional movement (Mullick 1996: 8; Parajuli 1996).

and the British (Mahapatra 1986: 23-4). The term *Diku* applies to those who have a sense of superiority and those who dominate and exploit the *adivasis*, such as contractors, political infiltrators and trouble-makers (Carrin-Bóuez 1986: 36). On the one hand, all outsiders are not *Dikus*; some outsiders the *adivasis* integrate by forming relationships of kinship or *homitan* (friendship). On the other hand, with increasing differentiation, all *adivasis* are not *hor*, the most acculturated *adivasis* are considered *Dikus*. The *Dikus* are disliked and avoided in eating, drinking, smoking and in other sociable situations (Gautam 1977: 38). The *Dikus* dominate the District. They constitute a cultural hegemony and control the economy, the state, the political and educational system. There is an interesting double level to identity that includes both the category and the quality. The terms *Diku* and *Hor* are often used in three contexts: as an explanation, a warning or a threat.

The *Diku* is the other of the *adivasi*, and for the Hindu, the *adivasi* is the other. Awareness of 'others' helps to strengthen the sense of solidarity of the group. The concept of *Diku* has served the *adivasis* as a source of unity against alienation. Some neighbouring communities, such as the *sadans*, who form a heterogeneous group of earlier migrants, share this conception, and has helped in the formation of a regional solidarity and the Jharkhand movement – a revitalisation movement. Some Jharkhand political rallies have such a concentration on culture that they are closer to a festival than a political meeting (Orans 1965: 106; Appendix 20).

Men as certain trees, women as climbers and songs as seeds – what do the lyrics mean?

In this section, I analyse the forest-related poetry of folksongs and show how they are related to classifying humans. Folksong poetry is full of verbal transfer and multi-evocative metaphors (substitute) and metonyms (part-for-whole substitution). Following Fernandez (1986), I analyse the context of language use (social relations and actions) of the *sangita* (songs with folk poetry; *gita* = song), since it is in this context a child learns his/her language.

For Fernandez (1986: 91), folk poetry is mostly about the movement of self and others in lexical space (across lexical domains from one lexical domain to another) and quality space, and up taxonomic hierarchies. The movement may also be graphical. Folksong lyrics are physical, and in this physicality are embedded the seeds of the metaphysical attitude. Folksongs communicate profound emotions. Poetry is a vehicle to evoke affective response and change the quality of its subjects by using the main tools of our understanding. People manipulate themselves and each other by informative, expressive, declarative, directive and performative metaphors and metonyms (Fernandez 1977: 104). Folksong poetry is rooted in common habitation and experiences, it plays upon ambivalent dimensions, it brings the ends of various dimensions to bear upon each other, it extends images from one domain into others (imagination), and establishes certain moods about people and places. An argument may lie behind the mood they establish. They are syllogistic – associations are made by the rules of logic (Fernandez 1986: 93, 99). Hence, 'if one admits their premises, one is led to necessary

conclusions' through analogy and association (Fernandez 1986: 126). Analogy is a thought process that enables to conceive similarities between various aspects of experience.

The final referent of myths, rituals, folksongs, folk-tales and riddles is a basic aspect of human behaviour – the union of man and woman (Köngas Maranda 1971; Fernandez 1986: 176; de Boeck 1994: 461). It is often part of analogy, which according to the Aristotelian definition exists whenever there are four terms, such as the relation between the second and the first is similar to that between the fourth and the third.

A/B as C/D

> [A]ny kind of reasoning by tropes – by analogy – rests on two kinds of connection between phenomena: similarity (the metaphoric relation) and contiguity (the metonymic relation). In terms of this Aristotelian formula the similarity relationship runs across sets and the contiguity relation within sets:
> metonym A/B metaphor C/D (Fernandez 1986: 177).

The contiguity is 'transformed into a similarity and is then translated back into a contiguity or a reconciliation between male and female' (Fernandez 1986: 184). The metaphor bounds the following message: men [trees] and women [climbers] can make the forest together. Fernandez (1986: 201-3) analyses the interplay of melody ('the sequential contiguity of notes') and harmony ('the paradigmatic association of different instruments or voices') as an example of the interplay of similarity and contiguity. The same melody can be played in different key. Sometimes the association of images is in a continuous analogy – A:B::B:C::C:D – humans are to trees as trees are to forests as forests are to the world, but often in a discontinuous analogy – A:B::C:D / D:B::A:C – man is to climber as woman is to tree / tree is to climber as man is to woman.

Folksongs involve several lexical fields and some movements about, within, and between them, as well as a wish to become something. Kolho, Mundari, Oriya and Santal lexicons organise semantic space in different ways from English, and allow different possibilities to express the world in terms of corporeality (processes of movement of the body), sociability and territoriality (regionalism). Folk-music, folk-tale and folk-art are usually expressed in Kolho, Mundari, Oriya and Santali as old music, old tale and old art, although they have words for 'folk', and hence emphasise that they are passed on from one generation to another.[207] The sociability of words and phrases, which tend toward the intimate, such as courtship, family, neighbours, corporeality (lap, kiss) and interpersonal themes (married, lover), are present in these social relations (Fernandez 1986: 135). In Santali there are two kinds of hello: *haychando* (problem-hello), if the person greeting you has a problem; and *e chando* (no problem-hello), if the person greeting you does not have a problem. For instance, in a song of a deserted woman, every second line of the verse starts with *haychando* to say that she is singing because she has a problem. It may be interpreted as her wish to tell her story of injustice, as a cry for help, and/or as a warning to others. On the one hand, historical contexts are corporeal, social and

[207] For example, in Oriya *lokokohta* means folk and *puruna songito* folk music.

territorial, on the other hand, they are economic and political (*Hor–Diku* identities). Next, I describe a day in the evening of which a *lagane* is held in Burupal. *Lagane* or *lagre* means 'tune', 'dance', 'common dance song', and 'the event of people singing and dancing'. *Enec'* means both 'to play' and 'to dance'.

From cock-a-doodle-doo women were busy with housework, cooking and taking care of children. Some Santal women stayed most of the day in the forest collecting *sal* leaves. From morning onwards men ploughed the fields, and had a break in the middle of the day when the sun made them sweat. Then after a hard day's work, they have a bath in the river and change clean clothes. Around eight in the evening people start gathering on *akhara* (dancing or assembly ground) and *lagane* can begin, usually lasting four to six hours. The Santal have *laganes* several times a year, and especially if any group of young women comes to visit the village. It offers possibilities for future spouses to meet. People sing many songs, since usually they sing a song only once during a *lagane*. In the evening men lay ploughs down and play musical instruments, mainly *tumak'* (from burnt clay and goat and bullock skin) and *tamak'* (kettle-drum beaten with sticks) in *lagane*.[208] Although some play better than others, men have basic skills and take turns in playing them. There is no stage, men playing musical instruments dance and move together with dancers and singers forming curving lines or big semi-circles, and go around making circles on *akhara.* They begin with a song to 'bind' the *akhara* and after that they gradually move also towards the edges (Archer 1974: 65-6). Men, women and children dance armed linked holding hands, stepping sideways or forward and then backward. A dust from the dry earth moves with them, but still the saris of women shine with bright colours. Women wear jewellery in everyday life, but may wear their special jewellery during a *lagane*. Except for the *betel*-shaped hair pin that *adivasi* women wear, *adivasi, dalit* and general caste women use similar jewellery: bangles, rings, ear rings, nose rings, *chuttia* (toe ring which is a sign of a married woman) and *panjam* (silver ankle chain, which make sounds when moving). Most jewellery materials are plastic and glass rather than silver and gold, which were more common two generations ago. Whatever material the jewellery may be, the spirits are high and smiles are easy to come by. The Santal enjoy the music, singing, dancing, and each others' company. Dancing men get carried with the beat and move their bodies more than women, but all, including children, take part in vertical undulation. *Handia* drinking encourages relaxation, and the Santal men share *dukuta* (raw, black tobacco) with their friends. Drums beating with the throb of a beating heart make drummers and dancers forget their tiredness after work. Sometimes drummers miss a beat, and dancers forget a couple of steps, but go unnoticed. The throbbing of deep, soft and mellow drums gradually increases in intensity and the insistency of drumming affects you as a hypnotic power.

Drums are important in festivals, community dances, receptions (for persons considered important), and life rituals: marriage, funeral procession and at the time of *uthiari* (21 days after birth, which the *adivasi, dalit* and caste communities celebrate). Some said that drumming is the 'sound of

[208] The *tumak'*-player beats out the 'main rhythm with his right hand on the narrow end, and the left hand beats a deeper note on the broad end to punctuate the bars' (Culshaw 1949: 43).

gods', which may be one reason why only men play musical instruments. Drumming men bring rhythm to the earth. Musical instruments are male-associated in a similar fashion as a plough is male-associated. It is forbidden for a woman to play a musical instrument (except *sarpa* and small brass cymbals during the harvest festival)[209] in the same way as it is forbidden for a woman to plough, and among the Ho and Mundari a woman must not even touch a plough. If a Santal woman ploughs a field, 'she must be tethered like a cow and made to eat some grass' (Archer 1974: 54). Ploughing and planting are parallel to intercourse and insemination; men plant seeds to the field and women. Ploughing and planting, and playing musical instruments and making tunes have the same reference point: man : (male) semen : seed : (musical instrument making the) tune or song. Only men play musical instruments, only men distribute seeds; to make music is to plough and sow.

If playing musical instruments is a male activity, both men and women dance and sing. Collective dancing and singing bind people together.[210] Many songs are group songs, sung together while dancing or during festivals, such as *doli* (swing) songs of the *Raja* festival. There are many kinds of folksongs: children's songs (lullabies, to make children stop crying, songs children sing), juvenile songs, those sung exclusively by men or women, those sung by men and women jointly, such as *dhar fofado* (catch-and-throw) songs, called *tela* in Santali, where men and women sing in turns (alternating lines of the lyrics). Sometimes they are question-and-answer-songs. Santal melodies are usually pitched high and in a minor key, and tunes make use of three or four different notes in the scale. A characteristic is a 'long-drawn-out succession of repeated single notes at the end of each line' (Culshaw 1949: 44). Although sometimes people recite some folksongs, usually the *adivasis* dance when they sing these songs, so the rhythm is important.

The lyrics of dance and wedding songs are the lyrics of courtship, and have romantic references and sexual associations. *Adivasi* songs show attachment to sweethearts, community, birthplace, land, nature and/or resistance against the *Diku*-rule. Many songs have direct references to nature and natural processes. These attachments are present in the following examples. The first example is a Santal *lagre*, which is a common new dance song that only men sing.[211]

> In front of your house there is a turmeric tree / I'm under a shadow of one branch / half of my body is under the shadow / half of my body is under the sunshine / the shade is like my lover.
>
> Sometimes you love the men of the village, sometimes you love your *barmasia* (bonded labour), sometimes you love a literate youth / your love depends upon those like a climber.

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[209] During the harvest festival Santal women can play the *sarpa*, which is brought out only at this time. It is a wooden percussion instrument with strings and wooden clappers that make a ringing sound when beaten (Culshaw 1949: 40).

[210] *Adivasi* community dancing is different from dances of general castes, which are performed by professional dancers and amateurs with the audience watching rather than most people participating. The traditional dances of Oriyan general castes are *odissi* and *chhau* dance. Only men dance *chhau*, which resembles *adivasi* dances.

[211] *Ape chhataka jatabare taradarting / umul akan dulal gatere tarang situng akan.*
Taramone do atukolare taramone do / taramone do guti kolar taramone do / oloh kolare dulai thampa balae kan.
Taramone do ot otte taramone do / jhata jhatate dulai gatere jhampa balae kan.
Serend tale mari eta dohoype / raha tale maai rahay doroype / jo kohima baha kohma dulal gatere kuli mochare.

> Sometimes your love moves on the ground, sometimes it moves on a fence like a climber. / You keep our song, you keep the tune as a seed / This song'll be in the month of all these girls (Gudra, a Santal member of the Simlipal group, Kusumtata).

In front of the beloved's house one branch of a turmeric tree provides a shade for a lover. Women love different kinds of men, but always their love depends on men. Sometimes the love of a woman moves on the ground, sometimes on a fence. The beloved is requested to 'keep the tune as a seed' that will grow as a sperm may grow in the womb and develop into a child. One interpretation could be that climber is to tree as woman is to man; i.e. women depend on men, since a climber needs the support of the bigger tree to grow. Rather than seeing climbers : women as subordinate and trees : men as dominate, I interpret this syllogism of association that men [trees] and women [climbers] depend on each other, and together they create forests, children, next generation – new life.

> man is to climber as woman is to tree
> tree is to climber as man is to woman
>
> Therefore, men [trees] and women [climbers] can make the forest together
> tree : climber :: man : woman -> + 1 forest

This interpretation gets further support from the conception that trees and climbers make children (berries, fruits) as the following Santal riddle shows.

> The woman who has a child every month. A fig tree (Archer 1974: 46).

The Santali-speakers refer to children as 'the fruits of the tree'. In Oriya *jata* meaning flower and seed expresses similar interdependence: flower (women) and seed (men) exist together.[212] Many plants grow from seeds, and after blossoming flowers have seeds, so there is a continual process or cycle from seeds to flowers to seeds. Men planting seeds on Mother Earth and songs that fertilise the women are part of the interrelatedness.

The second example is a traditional Santal dance-song sung in the beginning of the *lagane* (question-and-answer-song).[213]

> Near the kitchen garden of my house, there is a sweet turmeric tree / cuckoo bird is singing.
> When the first man was born, the cuckoo was singing joyfully.
> The cuckoo saw the man, he became joyful / so still today he sings joyfully.
> The bird is saying that I'll worship you with *kendra* (stringed instrument) and *tiri yau* (flute) / I'll give my life in your name (bird sings; Gudra, a Santal member of the Simlipal group, Kusumtata).

Men worship their sweethearts with music. Musical instruments are made from materials derived from the forest. *Gambhari* wood makes good musical instruments, but if it is not available, the *junglewala*

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[212] There are also words for specific parts: *phul(a)* means flower, *phala* share or part and *manji* seed.

[213] *Balge latar simrea sibil jojo darere / kuhuchene rarah kana mone judasi*
Ched leka manwa hopon janamakan / raskate rarah kana mone junasi
Medicine perej nel kate moneperej / one tein rara kana mone judasi
Tiri yau banam ante / thakur baban sar had me / tiwi hoin alaya am nutum te. Cuckoo in Santali is *koili*, which says kuhu-kuhu.

use other species. *Kendra* (*banam* in Santali), a one string fiddle, is made from wood (bamboo) and its string is a metal wire (before horse tail hair). The shape is reminiscent of the curves of a woman's body, and hence implicitly men playing *kendra* caress a woman's body. Men play *kendra* holding it against the chest or stomach rather than neck. *Tiri yau* is a wooden flute, and similar to a recorder (little longer) and played like it.

The third example is a traditional Santal comparison, *lagre* and *tela* song titled: Seedlings in the soil and flower at the top / I want to become a fruit in the lap of the flower.[214]

> If you become the moon, then I'll become the cloud
> full moon and the cloud both will move to you
> I'd become a cuckoo bird
> in your courtyard in the *guleichi* tree saying kuhu-kuhu
> I'll say kuhu-kuhu from the morning to evening
> with this sound I'll pick you up from the lap of your father and mother (Kaldash, a Santal member of the Simlipal group, Kabatghai).

The meaning of the title is,

> man is to flower as woman is to fruit
> fruit is to flower as man is to woman
>
> man is to soil/earth as woman is to seed
> seed is to soil/earth as man is to woman

Seed is to soil and flower as man is to woman, and together they create vegetation, forests and new life. Men cultivate, and only men use the plough to put seeds in the soil. Seed is to the Mother Earth as a man's semen is to a woman. The Santali-speakers associate *er* (to sow) with *era* (woman; wife); men sow seeds to their wives, who have female seeds (fn. 208) . *Erok'* (sowing) festival celebrates the sowing of land. According to Jewitt's (1996: 6) research in two villages, Ambatoli and Jamtoli, in Bero Block, Ranchi District in Bihar (*adivasi* communities of Lohras, Mahlis, Mundaris, Oraons and 'backward caste communities' of Sahus and Pradhans), most *adivasi* women believe that if they tried to plough, calamities would occur. Villagers' conception of this prohibition is,

> related more to the lesbian connotations behind a woman 'penetrating Mother Earth' than to gender-based struggles for control over agricultural production. Nevertheless, one woman did come forward with the more cynical interpretation that 'women would no longer be men's property if they could plough' (Sila Lohrain quoted in Jewitt 1996: 6).

These metaphors have performative consequences (Fernandez 1986: 21), and in this case it means the division of labour, and a prohibition against women ploughing and playing music.

> a) man is to moon as woman is to cloud
> cloud is to moon as man is to woman
> b) man is to *guleichi* tree as woman is to cuckoo bird

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[214] *Otre omonen chotre bahayen / Jo angi jo-angi joang baha amag kalere*
Amdo hunagi kunami chand / endo hunagi rahala rimil / kunam chando rahala rimil manedohalay amthen
Indigo hunag-ing janam lenkhn / koyel kongika chene rupte / ape chhatka gulachhi darere / kuhu kuhuing ragh
Ragaing ragana kuhu-kuhu / Ragang ragang anga ayub / ayo baba kole khondling andij odok me.

cuckoo bird is to *guleichi* tree as man is to woman.
c) man is to time as woman is to cuckoo bird singing (from morning to evening)
cuckoo bird singing is to time is as man is to woman.

When enough time has passed, bird singing becomes so tempting song in woman's ears that she leaves her parents' lap to join a man wanting to be a fruit in her lap (and create new life). Men's singing is linked with certain birds' singing, such as cuckoo and these songs and tunes are referred as seed(ling)s – song/tune/bird singing : seed. A male singer is a ploughman and a sower of seeds : songs. Both songs and seeds include possibilities of personal and social growth.

The fourth example, 'When you'll be taken away' (*amko idim*), is a traditional Santal wedding, *tela* song sung in Santal weddings.[215]

> You'll be taken to a place behind the forest / I'm interested to see that village / How I'll be separated from that love-climber? / You tell me how I'll leave you close friend.
> I'll also leave the love of my mother and father / I'll also leave the love of my girlfriends / How I'll be separated from that love-climber?
> If I take money from the moneylender, it is easy to pay it. If you're bound with rope, it's easy to open you / How I'll be separated from that love-climber? (Kaldash, a Santal member of the Simlipal group, Kabatghai)

This song refers to another man's bride-to-be as a 'love-climber' and expresses with compassion how difficult it will be to separate from her, when she will be married off to another village. A money-loan can be paid back, a bound rope can be opened, but how can the lover separate himself from the beloved? A lover feels he is bound to her as a tree is bound to a climber; a climber grows all around the tree – they are inseparable.

Some *lagre* and wedding songs tell about brides missing their natal villages, where there were trees line after line, mango bundles after bundles, paddy-land, festival songs and cakes, education ('my reading will go to my fireplace'), and mother to give *tulosi* leaf and honey for cough, and compare them with husbands' village, where the land is barren and the brides do not feel at home. In different ways these songs ask 'why you pushed me away, Mother?' There is also a traditional Santal song, which presents marriage as a possibility of swimming in the river, and a daughter is desperate to do this, but she does not have a bridegroom. Another song is where a woman has been married to someone else and she returns the lover's ring reassuring that it is him who will be the love of her life. Their love gave a feeling of being on the top of the hill, their separation takes them to the bottom of the hill, but cannot take their love away.

The following is a non-traditional Santal *lagre* about missing a person who has migrated elsewhere to work.[216]

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[215] *Amko idim buru parom / jenjel sanaj atu disom / chekate mayan nanij chhadaya? / ma-laiyanj merego sadergate*
Ayo baba mayan honj chhadaya / gatekuli mayan hunj chhadaya / chekate mayan nanij chhadaya?
Sau dharti bansing halaya barberte tol bangsing ralaya / chekate mayan nanij chhadaya?

[216] *Sanging disom chakiri gate tinah harket saset recho amdo menam ting*
Rohol sakam chithi gate bhai / sadakagoj photo mohor / etere gate chithing bhejaled / seterlena che bang?
Seterlena post office agunading ay dakpion / mone monete chithing palhaw monere med-dah joroh.

> You're working far away / you're not living independently / you're also feeling very bad there.
> The letter is a dried leaf / photo is only the stamp of the envelope / I've sent so many letters like this / have they reached you or not?
> Your letter has reached here / the postman brought it for me / while reading that letter silently tears are falling from my eyes (Kaldash, a Santal member of the Simlipal group, Kabatghai).

Underemployment and unemployment make seasonal migration rather common among young *adivasi* men, and to a limited extent among young *adivasi* women. Most do not want to migrate for work, but many are forced to, because of insufficient income from other sources. This song describes the desperation of being far away from the beloved with only an uncertain mail as a way to communicate. Although worried about her letters not reaching him, she knows that 'the letter is a dried leaf', has no life in it, and reading it makes her cry.

Regarding love-songs I apply 'a song is a seed'-metaphor to focus on their similarities. During the day men have fertilised the Mother Earth by ploughing and sowing seeds. In the evening men lay down the plough and play musical instruments and plant songs, which penetrate the ears and hearts of women, and men fertilise the women. Men aim to sing songs so sweet and pleasing that women become addicted to them. The lyrics have several references to lap: 'I want to become a fruit in the lap of the flower', and 'how I'll attract you to my lap' (by filling a waterpot or playing a stringed instrument). In their speech, the *junglewala* refer to the forest soil as mother's lap. The word lap refers to intimacy and corporeality. The aim of many wedding songs is a movement from the lap of the parents to the lap of the beloved.

Men and women have different metaphorical habitats in plants, animals and natural resources. In the love-songs, men, especially young courting men, represent themselves or are represented as a cloud, fruit, seed(ling), leopard, monkey, porcupine, and cuckoo bird or its cooing, which penetrates the woman's ears and heart like a seed penetrates the Mother Earth, and like semen penetrates the vagina. Women, especially the young, unmarried women, are compared to climbers, *guleichi* and fig trees, flowers, half-ripe bel-fruits (breast), mangos (woman's body and breasts), 'feathers' and several birds, such as (clucking) hen, peacock, fly-catcher, dove, pigeon and owl, or a snake, goat, cow stand, shade, and the moon (Archer 1974: 66; Appendix 12). These representations reveal a person's possible metaphorical habitats and identification with them is gender-specific. Metaphorical habitats honour the interrelatedness of life, and do not express nature–culture, object–subject, living kind–dead–unborn dichotomies.

A cuckoo's calling represents different ideas among the Santal. For example, with this sound a man aims to pick a woman from the lap of her parents, or to keep in touch with a sweetheart who was married to someone else, or by becoming a cuckoo-bird a man may reaffirm his everlasting love. A man 'cries' kuhu-kuhu in the turmeric tree of the husband's courtyard, and encourages the sweetheart to recognise his voice, give him rice, and show her disguised affection. Cooing reminds the beloved woman of the lover's affection with messages, such as 'I'll worship you with music' and 'I'll give my

life in your name'. Men becoming cuckoos express a transcendental movement, and interrelatedness among humans and animals. The Santal use plants, animals and their sounds, and playing music as messengers of love in situations where it is not possible to show affection openly.

Although in the West people tend to know about cuckoo's parasitic breeding habits of laying the eggs directly into the nest of the host, who will hatch them, the Mayurbhanjians do not emphasise this. The extent to which the Mayurbhanjians believe female cuckoo to be polyandrous or promiscuous in her sex relations and if this is compared with a woman's wantonness is difficult to estimate. Whistler and Kinnear (1949: 319) claim that local people are ignorant of the parasitic breeding habits of koel (*Eudynamis scolopaceus*) and have no interest in the bird and that this is 'indicative of the Indian attitude towards nature' among the hillmen of Himalaya. (See Sálim and Ripley 1969: 210.) Kipling (1891: 51) argues otherwise: 'Natives say crows hate the Koel because it selects their nests for its foundling eggs'. Furthermore, the koel's cooing in conceived as the perfection of all music.

> [A Western ear finds] a tiresome iteration of one or two clear, high, and resonant notes. Yet Oriental poetry, algebraic in its persistent use of a limited number of symbols, has officially adopted the Koel as the figure for exquisite sound; so the voice of your beloved, the performances of a musical artist, and all best worth hearing in life are posted under this heading (Kipling 1891: 51-2).

The poetry of these songs speaks on its own, but could also be related to the behaviour of the cuckoo bird, at least cuckoo's cooing of belongingness to a place saying I live here.

The *adivasis* do not merely represent themselves as plants or animals, several *adivasi* names and their totemic clan names derive from forest plants. For example, a man named Simal after *simli* tree, or a woman named Panamani after *pa(a)n* (*betel*). Women may be named after climbers (Panilata), or flowers, which are the feminine model of the regeneration (vagina, menses) among the Santal. For the Santal, the flower and the bone are the complementary principles of feminine and masculine (Carrin-Bóuez 1986: 85), as well as principles of life and death. Human bones represent ancestors, and a kind of immortality. The Santal are born, live and die, but patrilineality is immortal. Feminine and masculine liquids meet when a child is conceived and turn into blood, which forms the principle of life.[217] *Phula nadi* (*phula* = flower; *nadi* = pulse in Oriya) means a pregnant woman, who is like a flower with a new pulse of life. Flowers represent the fertility of women and respecting them ensures the fertility of living kinds. Life depends on fertility, reproduction, growth, maturation, death and possible rebirth.

Many villages and places are also named after plants or animals, goddesses and gods, and events. Some are named after tree species, Asanbani (*asan* forest) and Mahuldiha (*mahul* place), others after soil types, the stone of Pundburu-hill is white, others after animals that are abundant in that

[217] According to the Santal theories of conception, both men and woman have seed or semen, which derive from the juice of their bone marrow. The man's semen in the testicles, and the woman's in the womb. When a man's semen mingles with flower's (menses) root, the two semen change into blood, and the woman's flower fades. In four months the *jivi* (soul) enters from the root and swims in the blood. The mother's semen feeds the child (Archer 1974: 158-9). The Santal say semen is 'marriage water' (Archer 1974: 48). From *jan* (bone) comes *janam* (birth), and life depends from the cycle of *jan–janam*.

area, Sambar *hudi*, Tiger *hudi*, Barhakamuda (wild pig bite), and Bhalubasa (sloth bear home; *Melursus ursinus*).[218] Some places are named after the goddesses and gods residing there, such as *Thakurjharan* (*Thakur* stream). Many times these are not merely names, but the *junglewala* worship them in various ways. For instance, if anyone goes to Talsa-hill (*talsa* = measles in Santali) without worshipping the god of the hill, s/he will get measles. Another example is Kanapat (name of god), who is worshipped to get rain, and this is done yearly before the monsoon.[219] Naming persons and places after plants and animals reveals a close forest–human relationship, and naming them after goddesses and gods a close human-spirits relationship.

Overall, there are pronoun differences between different types of songs regarding objects and subjects. Love, courtship and wedding songs use singular subject pronouns (I, you, s/he). Love songs are self-expressive and focus upon the individual mannerisms of both lover and beloved, and the circumstances of their relationships. Songs aiming to create awareness are non-traditional, such as the forester's song (Chapter 5: The 'green hymns' of forest protection), use plural subject pronouns (we, you, they). We of the same community, place or with the same idea, such as us and them between the *adivasis* and the *Dikus*. Awareness-songs start with the topic, such as forest protection, they aim to aware and motivate, are less poetic, more factual, and often made by off-site agents. Songs aiming to create awareness make a hierarchical distinction between the awared and the non-awared. Awareness-songs reveal an ideology: a creation of reflective consciousness within a culture. Although the aim of awareness-songs is clear, they often end up doing something else. The aim of folksongs, traditional or new, is not to aware, but evoke feelings and to describe life and living in a personal and touching way, which may also be educative and awaring. Folksongs start with feelings, whereas awareness-songs start with the topic of awaring and approach they advocate, and may end up with less feelings-evocative impact. The following proverb reveals the difference between folksongs and awareness-songs: A dog is happy if it wags its tail, but you cannot make a dog happy by wagging its tail (discussion with Jedrej).

The *Raja* festival celebrates the yearly menstruation of the Mother Earth

The *Raja parva* or *dolo raja*, festival of the earth and agriculture, is celebrated for *Ratja pati* (Mother Earth; *Dhanti Mae* in Santali). The Mother Earth's yearly menstruating period (15 June) coincides with the coming of the rainy season, just before planting paddy. The *Raja* festival lasts four days and all work ceases: the earth is given rest in a similar fashion as women rest during their menses. Festival foods include *mudi*, meat, *dal*, vegetables, mango and jackfruit. People build *raja doli* (swings). Swinging is related to the *Mahabharata* epic, which describes that when Krishna was swinging on his back in the forest, an *adivasi* community (*Chara soporoi*) thought his feet were the ears of a lion (some said that he was taken to be a deer) and shot an arrow which killed Krishna. The Jamuna-river came out of Krishna's blood. The *Raja* festival is a major occasion for finding out who is marriageable and

[218] The name Simlipal may derive from *salali* (*simul*) or *sal* trees, or as a writer Radhanath argues, from three rivers that derive from Salali; or in few *adivasi* languages *simli* means green and *pal* means caretaker.
[219] Hindus have a similar practice. If there is no rain when the monsoon is due, they will put water on Shiva's head for one day and there will be rain.

potential future in-laws (Apffel Marglin and Mishra 1993: 205). In some villages, two *junglewala* are dressed as images of Radha (Krishna's beloved) and Krishna (god of love, part of Vishnu). The participants go from house to house in the village drumming, singing and dancing. Then they carry *char* branches, and roll in the mud. Mud-covered bodies signify that the Mother Earth is fertile and people are happy.

Many festivals and *pujas* are associated with the agricultural and forest calendars and the events of planting, harvesting and blooming. The *Raja parva* starts the agricultural calendar. A rhythm of the seasons starts with a time of fallow, and is followed by rain, planting, and a time of reaping. These seasonal articulations are called *ritu*, a word also meaning menses (also six *nota* means menses; *nota* = 1/2 litre; a silver waterpot). This is not a coincidence, since throughout the year in a manure pile cowdung, ashes, house rubbish and straw are piled. At menarche, a girl is placed on the manure pile to understand that her blood along with manure regenerates the fertility of the fields. During April and May it is taken to the fields to fertilise the land when the land is fallow. The beginning of the rains is the time to sow. The separation between earth and clouds is echoed in the separation between women and men during women's fallow periods, their menstruation. Women are the stationary earth and the moving rain clouds are men that come and go.

During the *Raja-parva* men worship the mother, a tree dedicated to *Harachandi* goddess (*Jaher Era* in Santali) in the *jhahira.* Her periods are good to everyone, because she will cause many things to grow and give good crops. When the goddess is bleeding, villagers do not work to please her and women, on whom regeneration depends.

> The Mother, the earth and women are the same thing in different forms. During the four days of the Raja, the earth, the Mother, is bleeding. [...] We think that women are bleeding too, not really but symbolically and that the Mother bleeds through them (a male villager, Bhakari Parida quoted in Apffel Marglin 1992: 18-9).

Menstrual, agricultural and forest cycles have a rhythm, which implies a relationship, and are repetitive, which implies cycles. *Junglewala*'s distinctions and knowledges of forests and plants represent a cycle and web of life worldview: the Sun is the creator, and the Mother Earth nurtures living creatures during their lifecycle.

The sun cooking the world and people re-cooking

Lévi-Strauss's (1986) crude raw–cooked and nature–culture oppositions fail to capture several cultural distinctions, although he discusses several cooking methods, such as roasting (direct exposure to fire : nature) and boiling (indirect fire : culture). For Lévi-Strauss, they are different manifestations of deep categories of thought stemming from an underlying duality of resemblance and difference. Goody (1984) argues that Lévi-Strauss overlooks the variety of ways of producing, preparing and consuming food that different societies have developed throughout history. Leach (1972: 39-67) and Tambiah (1985: 169-211) show the importance of edibility distance and eating

prohibitions in sex and marriage rules, and spacial and ecological categories (house, field, forest). Their classification of animals has resonance in Mayurbhanj, but symbolic complementary dualism co-exists with other metaphorical schemata and symbolism, as in Malawi (Morris 1998: 171-2). For the Santal, some trees and water are marriageable, but a member of the same clan is not. Malamoud (1996) makes a symbolic analysis of cooking in India. Food transactions indicate social relations, cooking is related to the system of stratification.

In Hindu India, food is disclosive of social relationships, 'relationships founded upon the purity of donors and eaters' (Malamoud 1996: 52). Food is considered in terms of its ingredients, preparation, rules of exchange and consumption. Malamoud (1996: 7-8) in *Cooking the World* argues that 'Food is a prime vehicle of pollution'. People are more cautions with cooked food (Who cooked it?) and leftover food (Who ate it?) than with raw food. According to *Satapatha Brahmana* (Madhyandina recension, 6.2.1.9. quoted in Malamoud 1996: 23), Prajapati, the creator of the world, made the food of immortality by cooking with fire. Similarly, when one cooks offerings with fire, they become the food of immortality. Fire renders also bricks immortal. *Lokapakti*, 'cooking the world' (*loka* = world, people; *pakti* = cooking, derives from *pac*) means more figuratively 'maturation', 'perfecting', 'dignity' and 'good reputation' (Malamoud 1996: 23-4).

In Hinduism, the place of person or a group is revealed (and confirmed), when they say what they eat and refuse to eat, in whose company they agree to eat, and from whose hands one accepts cooked food.

> The higher one is located in the caste hierarchy, the more sensitive and exclusive one is on all of these counts (Malamoud 1996: 25).

Brahmins can cook for everyone else. *Pakka* food is cooked by the Brahmin to permit the greatest number to consume it (Dumont 1966: 138, 145). Brahmins' vegetarianism reveals that meat-eating indicates more than a symbolic expression of the human control and mastery of nature, or of production.[220]

The purity of the castes is correlated with a hereditary division of labour between castes. The work of each caste indicates the extent of purity of the caste (Douglas 1966: 126-7). Several castes participate in food production, and therefore the cooking process with pure hands provides the ritual break and makes food non-polluting. Douglas (1966: 127) argues that 'the cooking process is seen as the beginning of ingestion', and therefore both cooking and eating are susceptible to pollution. Marriott's (1968) analysis is more dynamic, and he considers food transactions between castes as a transactional index. For Marriott, social dominance and dependence derive from the direction of giving and taking. Those who are able to give symbolises high value, and those who receive symbolises low rank. This logic is reversed in marriage and sexual unions, but expresses the same

[220] Harris (1977: 229) claims that although Hindus and Westerners see Hindu vegetarianism as a triumph of spirit over matter, it is a victory of reproductive over productive forces. Harris claims that the reasons were the intensification of production, the depletion of natural resources, and the rise in the population density. For Lévi-Strauss, nutritional prohibitions express a refusal to attribute an animal nature to their humanity, but they may also express human nature in animals (vegetarianism), and/or goddesses and gods having human characteristics.

principle of dominance based on the interrelationship between castes (Tambiah 1985: 242). Both the exchange of women and the exchange of food are means of 'displaying the interlocking of social groups with one another' (Lévi-Strauss 1966: 109); the status of wife-givers and food-givers and that of wife-takers and food-takers are parallel.

In Indian physiology milk and milk produce are cooked in advance. The raw (cows) have the cooked (milk) inside them, because milk is the sperm of Agni, and all that comes from Agni is cooked. Whether the cow is black or red, it has white milk that shines like fire and is warm; 'for it is the sperm of Agni' (Malamoud 1996: 38). Milk produce are not merely socialised, but ritualised. The parallel cooking process lies at the source of every component of the living body. According to *Yajnavalkya* 3.84, the juices contained in food (the *annarasa*) are cooked by the abdominal fire and produce blood, which after cooking produces flesh; flesh produces fat; fat, bone; bone, marrow; and marrow sperm.

> Each of these cooking processes occurs in a compartment, a *kosa* and over a fire, *agni*, specially reserved for it (Malamoud 1996: 273, fn 52).

There is a special relationship between cooking, culture and sacrifice. A sacrifice is a kind of cooking, and human labour is necessary to sacrifice substances. A corpse is offered on the funeral pyre to Agni, and in a certain sense the cremation is a sacrifice. Marriage renders the bride *samskrta*, 'brought to perfection' or 'well-cooked'. The entire premarital life of a woman is a long *diksa* or the metaphorical cooking of the sacrificer (Malamoud 1996: 42, 46). *Samaskruti* means culture in Oriya and consists of *sa* (s/he), *ma* (me), and *kruti* (behaviour, activities); culture is common behaviour of a group of people (*samasta* means all; *sam* + *as* + *ta* to put together). Culture speaks of what is common sense and natural–cultural to a group of people, and in India that is cooking and sacrificing.

Everything is already cooked (created) and 'all that remains is to re-cook it'; people are cookers of the cooked. Brahmin's sacrificial fire redoubles

> the activity of the sun, the visible image of the *brahman*: "That [sun] cooks everything in this world, by means of the days and the nights, the fortnights, months, seasons and years"'

and *Agni* cooks what has been cooked by the sun (Malamoud 1996: 48 referring to *Satapatha Brahmana*, Madhyandina recension 10.4.2.19). Hence, cooking refers to transformation through direct or indirect contact with fire. The Vedas (*Rg Veda* 1877) contemplate heaven and earth as universal parents. In Oriya the sun (*sorya*) and fire (*agni*) are masculine, and earth (*bhumi, maati, prthibi, pritibi; priti* = love; *riti* = behaviour; *ritu* = menses, seasonal articulations) is feminine.[221] *Agni* means also East and sun-god; the sun is the fire rising from East.[222] *Agni* cooks the world, men plough the earth and women re-cook for everyday meals (domestic sphere) and men in rituals excluded from women (public sphere).

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[221] *Bhu* (to be) is like the *bhuman* (earth; *bhumán* = abundance): compact and abundant (Malamoud 1996: 54).
[222] Hindus believe that all souls come from the sun, and after death the 'best souls' go to the Sun and have no rebirth. Other souls move on the earth to find a new birth, or cause problems as ghosts.

The Sanskrit *ama* means 'raw' and 'non-ripe', and *pakva* means 'cooked', 'ripe', 'digested' (*srta* only means cooked). The Hindi *kacca* and Oriya *kancha* means 'raw', 'rough', crude' (derivative sense: precariousness and imperfection). The Oriya *pachiba* or *pakka* means ripe, *pancheiba* to ripen and *randhiba* to cook. For instance, a dirt road is called *kacca* (raw road), and paved road is *pakka* (cooked road). *Kacca* food, which includes unheated milk, unmilled grains and fruit, can be taken from anybody. *Pakka* food is divided into two types: *hali rasoi*, boiled food (*hali* = ploughman), can be eaten only if it has been cooked by someone of one's own ritual status or by a superior; whereas *suji rasoi*, fried food, cooked in *ghee* (clarified butter), can be taken from inferiors (Mayer 1960: 33; Marriott 1968; Parry 1979: 95). *Kacca* may refer to minimally cooked food, such as rice (*dhan*[223]) cooked in water among Hindi-speakers, but is *pakva* in Sanskrit. Instead of the brahmanic India's raw–cooked binary opposition, in Hinduism there was 'the threefold series of raw/*kacca* cooked/*pakka* cooked', of which the first two may be qualified by the single term of *kacca* (Malamoud 1996: 52). If this series is considered in terms of fragility to pollution rather than an increasing degree of complexity in food preparation, it follows the order raw–*pakka*–*kacca*. The Oriya-speakers make the *kacca*–*pakka* distinction as the Hindi-speakers.

The linguistic division of reality corresponds to differences in attitudes and justifications for rules. Raw food is non-sacrificiable; all sacrificial food is cooked, 'worthy of sacrifice' (*yajniya*), has a higher value and requires greater precaution and reverence in its manipulation than non-sacrificial food. In today 's Hinduism the criteria have been revised: *pakka* food is more elaborately prepared, more precious (protected and sanctified by bovine products contained in it) and less fragile ('less exposed to pollution and less apt to pollute') than *kacca* food. The restrictions are less strict when the served food is 'perfected' rather than 'crudely cooked' (Malamoud 1996: 52).

Besides the *kacca–pakka* food distinction, hot–cold (*garam–thunda*), right–left (*daahaan–baam*), and ploughing–non-ploughing distinctions are made. There are also restrictions on which direction one should face when eating and performing sacrifices. For example, Hindus worship towards the East. 'Hot' food includes meat, eggs, alcohol, groundnuts, carrots, onions, and garlic, and is linked with lust and aggression. 'Cold' foods include rice, milk, honey and *ghee*, and are linked with meekness and tranquillity (Parry 1979: 89). According to the Ayurvedic medicine, 'cold' foods should be consumed in summer, and 'hot' foods in winter.[224] The hotness–coldness distinction may change with their ripening or cooking. For example, unripe mangos are hot, and become cold when ripe. Foods for the right-handed rituals are Brahmanical fold of Yoga, and those of the left-hand (use of alcohol and meat) are not. The left-hand rituals link up with Yoga-in-*Bhoga* principles and with feminine divinities of Hinduism (*Durga, Kali*) which symbolise *sakti* (power), as well as the male gods Shiva and *Bhairava*. The right hand is suitable for food eating, sacrifices and rituals, whereas the left hand is impure and involved with washing oneself after defacation and urination (the symbolic

[223] The wild rice is *balunga* (O), *urihoro* (Santali); *bir-baba* ('forest-father', Kolho); *deodhan* (Hindi); and *Oridhana* (Bengali). Botanical name is *Oryza sativa, L.*

[224] *Adivasi* and ayurvedic medicines make hot–cold distinction of diseases and medicines.

opposite of eating). To offer food to somebody by one's left hand is degrading and insulting to the receiver, and to receive food by the left hand is insulting to the giver, and to 'grain god' (*anna devta*; Khare 1976*a*: 82, 86-88). In Indian fasts, people often abstain from foods raised through ploughing (*jota anna*; grains, cereals), and eat 'food of fruits' (*phalahar*; Khare 1976*b*: 130). Although the raw–cooked discussion relates to the Hindu beliefs, *adivasi* beliefs fit to a large extent into the schema of natural–cultural–cosmic, although their rituals and festivals and their foods in the (related) schema of everyday–festival–ritual may differ.

Cultivating food indicates settlement and land ownership and forest foods are conceived as foods of the landless, poor, lower castes and *adivasis*. Apart from where the plant grows, the way of cooking and the cook express the edibility (pureness) of food. The edibility of food is related to several factors: season, life-cycle events, way of killing, way of cooking (including the material of utensils),[225] the cook and in whose company one agrees to eat. Certain life-cycle events (menstruation, pregnancy, birth, marriage, death) and seasonal rhythm and associated festivals and rituals make changes in the edibility rules. The edibility of meat also depends on the way animal has been killed. Hindus do not eat animals killed by Muslims, and vice versa. Some species denote significance by being edible (non-poisonous and permitted), others by being non-edible (poisonous and/or forbidden).

***Khaadya* (edible food)**

season | life-cycle events | way of killing | way of cooking | cook | eating company

edible — non-edible

animal food
domestic animals – wild animals

vegetable food
cultivated plants – non-cultivated plants
agricultural fields – forest foods

Forest fire can be creative (transformer in shifting cultivation; giver) and destructive (terrestrial fire; taker) – *dia* (to give) : *nia* (to take; fire). Cooking fire is creative (cooked food), and may be sacred also. Cooking (*rusei*) expresses a link with particular environment, where there is simultaneously celestial and terrestrial cooking. The sun cooks the world, and fire recooks, and can boil, stew, roast and smoke edibles. Cooking links *kacca–pakka* foods, vertical sky–earth axis, the sun's heat in sun rays that for instance make a tree (living kind) grow, and horizontal earth–water axis, cooking fire's heat in an earthen stove made possible by burning wood (artefact). People 'eat' *khaadya*, fire 'eats' *khato* (fuel). The forest cooks with the heat from the sun, air (oxygen) from the

[225] The Brahmins should use brassware, which is a symbol of prosperity in Indian villages.

atmosphere, and fuel from the fluids of the earth. (See Chapter 1. Mismatches of worldviews and cosmovision models; Lincoln 1986.) The sun, fire and water make cooking possible. Cooking can make the non-edible edible. At another level, the sun (dry), rain water (wet) and earth (dry), and the seasonal sun–rain cycles make life possible.

Heaven _____ Sun _____ Atmosphere
|
|
Earth

Sky (celestial fire)_____Rain (celestial water)
| |
| |
Earth _____Fire (terrestrial fire)_____Water (terrestrial water)

On one level there are vegetarian (plant flesh) and carnivorous (animal flesh, and for witches human flesh) diets. The *junglewala* associate meat with plenty and meatless meals with scarcity. On another level there are cosmic diets, which reveal distinctions between everyday, festival and ritual (sacrificial) foods in different communities. To understand the following apparently paradoxical conception, one needs to see the interrelationship between these levels. For example, general castes conceive ant-eaters to be more primitive than chicken-eaters, but have respect for vegetarian Brahmins, who are conceived as the purest cooks.

diets

| |
vegetarian | carnivorous
plant flesh | a) animal flesh
| b) human flesh (cannibalism)

Natural_____cooking_____ **Cultural (edible)** _____ rituals_____ **Cosmic**
fresh-rotten cycle

drying in the sun	*Ma mane bonga*
boiling	*Raja puja*
kwatha (boiling and filtering)	*bhoga* (food offerings)
potua (smoking)	*ambrosia, amrit* = food of the gods
stewing	*Prasad* are eaten left-overs of
roasting	supernatural beings; offering to god,
frying	and later distributed by the devotees.[226]

Natural cooking in the earth by the sun, human cooking by water in kitchen fires, and Brahmin's sacrificial fire in rituals. Kitchen fires are also sacrificial fires and *bhoga* is often first offered to the deities to get blessings of the goddesses and gods that make food to sustain well-being. Filtering is conceived to make boiled item purer. Frying in *ghee* is conceived to make food purer.

[226] To be offered a *prasad* by an elder person is a gesture to include a person into the family, although no blood relationship exists.

Adivasis

everyday	**festival**	**ritual**
usuna chaula (par-boiled rice)	meat	*handia* (rice-beer libation)
pakhal (watered rice)	*pithaa* (cake)	*arua chaula* (sundried rice)
torani (rice water;	*handia*	fenugreek
black cow's milk in Santali)		fowl
vegetable curry		turmeric
handia		

General castes

everyday	**festival**	**ritual**
chapati	coconut	fruits (coconut, banana)
roti (non-leavened bread)	milk	turmeric
mudi (puffed rice)	*ghee*	milk
bhat	meat	*ghee*
dal (lentil soup)	*mudi*	*pithaa*
vegetable curry	mango, jackfruit	*paan*
	pithaa	

To understand the cooking forest conception, I relate it to the conceptions of the heaven and earth as universal parents, the cooking sun-god, and the nurturing Mother Earth (the rain as god's urine for the Santal). The sun cooking the world challenges Lévi-Strauss's (1986) clear-cut nature–culture boundary. Forest foods are *kacca–pakka* depending on their maturity, if and how they are cooked, who cooks them, and how and who serves them. The foresters and some general castes and *adivasis*, especially educated ones, conceive forest foods as wild foods, and some general castes and *adivasis* as cooked foods. To conceive forest foods as wild foods indicates the nature–culture dichotomy, and to conceive them as cooked foods indicates overlapping categories of nature–culture–cosmos: the sun cooks, the forest cooks and the people re-cook.

The forest is mother : a tree with life is god : the forest is life

This section has already shown that if classifications of forests and plants are restricted to botanics, forest knowledge remains very limited. Botanics combined with pragmatic, symbolic and wider context of classifications provides an integrated understanding of folk taxonomies and the plant–forest–people–spirit relationships. *Junglewala*'s classifications cannot be simply labelled superstitious or religious, they indicate *junglewala*'s cycle and web of life worldview and cosmovision model, which go within and beyond dualistic thinking and models.

Based on his study of the Zafimaniry, a group of slash-and-burn cultivators in Madagascar, Bloch (1993: 111-2; 1998) argues that living kinds are learned in a different way, and the concepts of living kinds (presume an underlying nature) are different from the categorical concepts of artefacts (defined by functions). When humans use living kinds, they may eat, farm or sell them, their importance is more than taxonomic. These conceptual bridges between living kinds and artefacts are vital for the survival of human beings, as examples of food and housing show. Much (religious) symbolism is concerned with these passages between living kinds and artefacts, from raw to cooked

(food), tree to wood (housing), on which a lot of human life depends. The significance of the forest is clear: the *junglewala* depend on the prominence of the forest as a topic of discussions and rituals, houses and implements are made from wood, forest foods help to have food security, cooking and warming is by woodfires, and medicines are derived from medicinal plants. The belief system reflects a transformation of living kinds into artefacts, and tries to justify the killing of living kinds.

The *junglewala* say that the forest is mother, and *dani*.

> *Jungle jahani* (forest is mother).
> M*aa pari tulana karajiba* (*maa pari* = like mother; *tulana* = symbolise; *karajiba* = verb).
> *Jungle madhya dani* (forest is as well *dani*; *madya* = as well).

Dani is a person who gives everything (life) without asking anything in return. The forest is conceived as all-enduring, unconditional mother of life. As a mother gives life and nurtures, so does a forest. They both have life-creating and -promoting properties (fertility); life comes from mother : forest. The *junglewala* parallel woman's capacity to have children with forest's capacity to create seeds and plants. The forest has motherlike attributes providing food, protection and shelter, and if mother gets angry, calamities and infertility are believed to follow. The *junglewala* say 'the soil of the forest is mother's lap'. According to an Oriya proverb,

> *Bargachha chhai / maa kolor chhai.*
> The shadow of the tree is equal to the mother's lap (non-literal translation).

Some specify the mother-forest: 'Simlipal is our mother and trees are her clothes'. The cultural models of the mother and forest are similar, and the *junglewala* make no nature–nurture dichotomy. Although the case-study villages are patrilineal and some activities are forbidden for women, responsibilities and activities of mothers occupy a central place in their cultural model of the family. Motherhood as an image embodies the ideal love that is superhumanly strong, as well as gentle and approachable and offers practical help. Festivals and rituals express the conception and belief in the life-creating and -promoting properties of the forest, and the interrelatedness of nature, humans, ancestors and spirits. Just as the trees nourish the living, their wood is used to cremate the deceased. Just as the Mother Earth nourishes the living, it provides the burial ground for the dead. The *junglewala* interpret barren forest land as a sign of infertility and as a parallel phenomenon to sterility in women. (If a couple has no children, people tend to regard it as the woman's fault.) The *dalits* and general castes also respect land. For instance, on the Republic day (26 January), children march on the streets and shout '*Bande mataram*' (Hail Mother; salute to the motherland; opening words of the national anthem); it is the national day of Mother India. *Mor janmabhoomi bharat* is usually translated as my motherland is India, although it literally means 'birthland'.

> [On] getting up in the morning, we are expected to beg forgiveness from Mother Earth for stepping on her: O earth, consort of Vishnu, the Lord of creations, with mountains for thy breasts, and oceans for thy garments, forgive me for stepping on you (Gadgil and Guha 1995*b*: 115).

Several expressions of the *junglewala* show that the forest means life:

Jungle nahele chali heba nahi (We're not able to live without the forest; a 70-year-old Santal man, Burupal).
Amar jiban junglere achhi taha gachha lata parbata jharana (Our life is with tree, climber, hill, stream and river; Kartik, a Kolho member of the Simlipal group).

The jungle is our life. If there are no trees, we aren't able to cultivate land, because of poor monsoons (Mongol, a Mundari member of the Simlipal group).
Orissa has many problems, but because of forests, we're fine. [...] If in the future the forest is destroyed, we aren't able to live (a 70-year-old Santal man, Burupal).

This forest-is-life-view is also the message of the following Oriya proverb:

Brukhya ru jala	Water is from tree
jalaru arna	food is from water
arna ru jibana.	life is from food.

Some included paddy cultivation, saying 'If paddy, we live'. Some *junglewala* made a causal relationship between population growth and future forest: 'If population grows, no forest'. A Santal man said 'If forests, the future generation will be able to live happily'.

Patterns of humanisation and personification – the forest as a person – and kinship extending to the land and forest – the forest is our mother – express the cycle and web of life worldview and the mutualism of living kinds. To conceive rain as *Indra muta* (or *joreya dah* in Santali; urine/water of *Indra*) has two interpretations related to it. First, the sun-god creates and gives rain. When it is raining, the god is pissing the water of fertility on living kinds and fertilises the Mother Earth and enables her to nurture seeds, plants and life.[227] Mother Earth's fertility is activated by the male sky spirit who sends rain: a cosmic sexual union. Celestial water is not just a climatic element making the continual vegetative growth of the forest possible. Terrestrial water is not just water flowing in rivers etc. Rain links celestial water with terrestrial water, and hence the *junglewala* worship the provider of the rain (male) and conceive rivers (female) to be sacred. The *junglewala*'s model of the annual weather cycle goes within and beyond the meteorologists' dualist, circular and linear model, and they perform several rituals to bring harmony and abundant rain. Second is a more gendered interpretation: women are conceived as the stationary earth and men clouds as coming and going rain clouds as vehicles of *Indra*. When there is harmony between earth and rain, there is continuity of life. Therefore, there is reciprocal dependency between men (rain) and women (earth), who can create new life.

men are to rain as women are to earth
earth is to rain as men are to women
-> Together with nature and goddesses and gods men and women can create life.

[227] Water in Kulho, Mundari and Santali is *dah*, and urine is *duki* (K), *dodo'o* (M), and *joreya dah* (S), and derive from the same origin and are conceived to be similar substances. For Oriya-speakers, *pani* is water and *mutro* is urine.

Cultural models are connected to ideas about *prototypes* and knowledge representations. Lakoff's (1990) 'propositional model' (to construct the verbal account) and 'image-schematic model' (to perform the cognitive task) are two alternative forms in which knowledge may be cast. Lakoff suggest that metaphors are extended in closely structured ways, rather than from any domain to any other. For Lakoff, both metaphor and metonym are important. A *metaphoric model* structures from one domain to another, and a *metonymic model* structures a domain in terms of one of its elements. Under the major or organising metaphoric predication 'The forest is life', I identify the following sequence of underlying metaphors and metonyms: 'Mother gives life' (metaphor), 'The forest is mother' (metaphor), 'The forest is *dani*' (metaphor), 'Mother is *dani*' (metaphor), 'The forest cooks' (metonym), 'Mother cooks' (metonym), 'We [people] eat the forest' (metaphor), 'People eat food' (metaphor), and 'The forest cooks and the people eat the forest' (metaphor). These express associations in complex, from which I have made the following analogies.

forest is to life as people are to mother
mother is to life as forest is to people
-> life : mother :: people : forest -> + 1 new life
The forest and people can create life together

people are to cooking as forest is to food
food is to cooking as people are to forest
-> cooking : food :: forest : people
The forest and people can provide meals together -> + 1 cooked food

the forest is mother
mother gives life : the forest gives life
the soil of the forest is mother's lap : life comes from the forest
mother is *dani* : the forest is *dani*
mother nurtures : the forest nurtures
mother cooks : the forest cooks
The forest cooks and the people eat forest foods

For Fernandez, language, experience and the power of imagination are central to social life. Fernandez (1986: 21) refuses to see metaphors as merely poetic, they are performative metaphors and have concrete performative consequences for people's conduct. Metaphoric assertions, such as 'the forest is life', can be self-fulfilling and people orient their actions accordingly. For example, *jhahiras* express *junglewala*'s respect and fear towards forests and spirits. Unlike Atran (1990), Fernandez (1998) considers common sense to be intrinsically symbolic because rooted in experience, in both phenomenal and sensible conceptions. To interpret tree symbolism without analysing the power of words and the force of experience is self-defeating. Tree symbolism, trees as signs of vitality, life, health, regeneration, growth, fecundity and political artefacts, is a way to give meaning to social life. For the *junglewala*, the forest looks after living kinds in a similar fashion as a mother looks after a child. *Junglewala*'s original mother is the forest: the *junglee* are descendants of the forest. 'The society, people and *jati* come from the forest'; *jati* comes from *mati* (soil, earth) and *mata* (mother). It

is a reciprocal relationship: the forest takes care of you, and you take care of the forest. The forest is a source of sustenance, and to maintain this relationship the *junglewala* make sacrifices to spirits.

Language structures thinking about the natural world (Rival 1998: 25). To use Keller and Lehman's (1993: 80-1) concepts, land and forest are 'material essences' (basic components of cultural significant, perceptible living kinds of things), and the Mother Earth and *sal*-tree-as-god are 'efficacious images' ('something that share recognised perceptible attributes with the typical representation of a culturally significant thing' having a material essence).[228] The shared perceptible attributes creating a connection between the material essence and its efficacious image, whereby magical performances involving the efficacious image 'can produce effects in the thing itself' (Keller and Lehman 1993: 81).

The foresters refer to nature and natural resources as *prakrutiko sampad* (nature property) focusing on the material aspects, such as organic and biological growth. The Santal use several expressions, such as *Iswar dutt* (gifts of god, non-literal translation) and *Sing Cando*, which reveal that natural resources are not just things, they are gifts and blessings from giving goddesses and gods. Also children are *Cando*'s gifts for the Santali-speakers. *Jibana jagata* or *jaiba mandal* (*jibana, jaiba* = life; *jagata* = world; *mandal* = area) mean 'life world' or 'life area' of living kinds, and when it is translated as biodiversity its meaning is distorted to include natural and humans spheres and exclude the cosmic sphere, although without spirits' blessings the *junglewala* do not conceive life possible. The word biodiversity reveals a biological bias, whereas *jibana jagata* and *jaiba mandal* refer to material and non-material (perhaps mythic or imagined) living kinds.

The *junglewala* define a tree, climber, bush, grass and weed in a similar fashion to botanical classification.[229] There are also differences, for instance the *junglewala* may classify a plant as a tree and botanists as a bush. The *junglewala* classify both orchids and roots into three categories. Roots (*chero*) can be long roots (*patala chero*, non-literal translation), potato without branches, like sweet potato (*mata chero*), and descending root, sinker roots go downwards to top subsoil moisture (*ohoko*). In Oriya edible *mata chero* is *alu* (potato), in Santali *san* means plants with edible tubers. Another example is *phala*, which means fruit and *poli* means berry in Oriya, but the Kulho-, Mundari- and Santali-speakers make no distinction and use *jo(w)* for both, and may say big or small *jo(w)*.

The *junglewala* conceive trees as living or dead trunks. *Gachha* is a living tree, a trunk with life, and *katha* is a trunk without life, wood, a log. The word *gachha* derives from Sanskrit *ke* (who is it?) *ista* (it is god), since the image of Lord Jagannath is constructed on (sacred *maha neem*) wood. Lord Jagannath is the main religious god of the Oriyas. A tree with life is god. When a tree has no life, it becomes *katha*. *Kat(h)a gachha* or *mundhia* means a stamp. *Gachha katiba* means cutting a living tree, and *kat(h)a hana* means cutting a dead tree; making it into smaller pieces, cutting firewood (*jal katha*). Many *junglewala* may not articulate this etymology deriving from Sanskrit, but they conceive

[228] Their research is based on Dougherty's (1983) research in Vanuatu.
[229] In the medicinal plants case-study, 52% of the 142 medicinal plants were classified as trees (including bamboo), 19% climbers, 14% grasses, 10% bushes, 4% shrubs, and 1% as orchids.

tree-felling as tree killing, and talk of tree-fellers as 'eaters' of the forest. The performative consequences of the 'forest is god' metaphor are expressed in tree-worship (trees in *jhahiras* as living spirits), attempts to please the spirits to ensure the renewal of the species, and attempts to protect forests.

Sky _____ Tree _____ Earth

gachha	*katha*
living kind (trunk with life)	non-living kind (trunk without life)
container (wooden container of spirit)	content (timber)
goddess/god	

Trees link the earth and the sky. For Oriya-speakers, trees make *jalabaya* (water–air), and for English-speakers, oxygen. For the foresters, the sun and trees are important for the photosynthesis and human life.[230] Some foresters were concerned that *sal* leaf harvesting reduces photosynthesis, and others argued:

> When able to protect trees, should not ban poor people from plucking leaves. They don't pluck them from big trees, from undergrowth [...] in what way if affects the growth of the trees (a senior forester said).
>
> Forests are meant to serve the people and also the wildlife and also to protect the environment conserving the soil, water and air (a forester wrote).

For few foresters, wildlife is more important than human life. A forester would like to see a 'human free future' in the National Park, since humans can live anywhere, and genetic reserves are needed. Many foresters were worried about 'illegal felling':

> It is not a question of loosing some trees (a senior forester said).

To create an opening in the forest leads to erosion and environment becoming inhospitable to wildlife, cattle and human life. For the *junglewala*, the sun and trees are goddesses and gods and without their blessings life is impossible. Not only forest is life, also tree is life (*gachha hni jiban*), and a tree with life is god.

Junglewala's ethnoforestry celebrates trees with the following practices: tree-feasts, tree-marriages, tree-offerings and tree-worship. For instance, the Santal (and the Mohanta) regard *mahua* tree as sacred in their marriage ceremonies. Before the real marriage takes place, a bride is first married to a *mahua* tree, then her husband. In the tree marriage (*matkuma bapla*) ceremony the Santal conceive the *mahua* tree to ward off the evil effects of childhood days. The bride's representatives go

[230] The primary source or energy in the ecosystem is the sun. A forest uses carbondioxide (waste energy of others) and transforms it into oxygen (central life source for others). A tree makes wood out of water, air and sunlight. Although plants grow out of the soil, most of their substance comes from the air (Capra 1997: 291).

to the *mahua* tree with *handia*, a new cloth and sweets. The mother puts turmeric to the tree and to the bride and circles seven times with music and dance (Gautam 1977: 231-2).[231] A Bathudi bride marries a *sahada* tree close to her father's house. The role of the tree is to establish permanent relationship between a couple. If the bride becomes a widow, she can marry again, because the tree is the permanent husband. Among the *adivasis* a widow may marry a tree before a new marriage, since a second marriage for a woman is seen as bringing misfortune (Nair 1965: 143-4). In Hindu thought trees cleanse pollution and sin, and tree-marriages are held to prevent misfortune in human-marriages (Mehta 1995). A tree-marriage is long-lasting, compared to the often fragile relationship of humans in marriage. On a transect diagram a tree appears simply as a tree, whereas in real life the tree (or its removal) may be a symbolic statement about land-tenure resistance, resisting forest produce restrictions, gender relations, or about the well-being of the natural, human and cosmic beings.

marriage

tree marriage wooden bridegroom performed in a bride's house	water marriage bridegroom's arrows in a water hole performed in a bridegroom's house	human marriage human bridegroom (*jawae*)

People conceive the forest both as an agent (subject) and an object. As an agent, the forest does something. As an object, people do something to the forest; they transform living kinds into artefacts. For the *junglewala*, the forest is material, immaterial and transcendental subject. The forest gives, cooks, feeds, houses, heals and blesses. Forests, crops and children are material signs, symbols of the blessings of the spirits. For instance, for the Santal, the blessings of *Iswar*-god, can make paddy dancing, but if he is angry, he may stop to urinate and there will be drought. Trees in *jhahiras* are representatives of goddesses and gods, and trees as transcendental subjects have bene- and malevolent powers. For the *junglewala*, there is no subject–object dichotomy among living kinds. Subjects and objects are interrelated and may change their positions: a subject (tree) may become an object (wood), and an object (tree) may become a subject (goddess and god).

According to the Santal cosmovision, there are several passages among living kinds: from goddesses and gods to nature to people (person) to goddesses and gods. The passages depend on the recognition of the fundamental unity of living kinds: plants, animals and humans and spirits share birth, fertility, reproduction, growth, maturation, death and possible rebirth. Living kinds may be 'natural kinds',[232] 'personal kinds' (Overing 1985: 172) and 'spiritual kinds' (immortal living kinds) and transform their form – living kinds are transcendental. There is the circulation of energies, substances, or identities among living kinds. The biological, sociocultural and cosmological reproduction are part

[231] *Sakem orec* (tearing of the leaves, non-literal translation), the public tearing in half of a mango leaf symbolises Santal divorce on the grounds of adultery, barrenness, ill-treatment, and/or witchcraft (Culshaw 1949: 149).
[232] Natural kinds, such as humans are further divided into the *adivasis* and castes, animals (birds, snakes, fish) and plants (trees, mushrooms).

of the same process. For the *junglewala*, the forest is also an object, a source of livelihood and income. With commercialisation *junglewala*'s views are becoming more materialist. But many *junglewala* express their reluctance to be forest eaters:

> The forest is our mother. We shouldn't destroy (a 35-year-old Nayak, Kochilaghati, near Mopani).
> To cut a tree is like to take a life of a man (a 50-year-old Mohanta, Budihikhamari).
> People who sell firewood in the market, they eat the forest (a 59-year-old Sadgup man, Burupal).

Tree-fellers *khia* (eat) the forest, as evil influences or witches 'eat' a person and may cause a disease. Forest 'eating' may cause goddesses and gods to become angry, and deteriorate harmony and well-being.[233] If people cut the trees, there are no leaves. Collecting dried, decayed and dead wood does not make collectors 'eaters' of the forest, they do not turn a living kind into an artefact. 'Eating' forest refers to consumption in total sense; forest-eaters are those who turn *gachha* into *katha*; living trees into dead trees. Tree-fellers who 'eat' living trees are the cannibals of the forest : mother : goddess or god : life.

[233] The term *khia* (eating, eaten; to use, to consume) has a wide application in Oriya, and is used for the consumption of most materials. It is biological and cyclical concept – a plant 'eats' nutrients to grow, a baby sucks milk to grow – and may refer to disapproved, parasitic eating: a politician 'eats' promises made to voters.

Chapter 10. Conclusion: within and beyond dualism

I conclude the dissertation with the idea that 'forests are good to think and socialise with' and with a typology of forest practices and worldviews. I hope that this dissertation shows that multiple rather than dualistic approach can better incorporate the complexity of meanings in forest practices.

Forests are good to think and socialise with

To gain an insight into forest practises, Umans (1993: 87) expands the framework for analysis beyond the conventional forest management and knowledge system approach to cultural values, worldviews and ethics in forestry. A disposable or extractive worldview is anthropocentric and humancentered. Nature is addressed as a 'disposable environment'. The forest is conceived of as a passive object to be manipulated, a mine and humankind are extracting its ore. Humans are primary and stand apart from nature ascribing only instrumental or use value to nature. (Naess [1993: 28] calls it 'shallow ecology'.) A prohibiting worldview means hard-core, hands-off forest management that aims to have forests without biotic interference. Foresters practice prohibiting forestry in national parks and sanctuaries, and to a less limited extent in reserved forests, and disposable forestry in plantations.

Inspired by Gudeman (1986: 37), Bird-David (1990), drawing on her own Nayaka material in South India and the ethnography of the Batek of Malaysia and Mbuti Pygmies of Africa argues that hunter-gatherers perceive the forest as parents and environment as giving unconditionally – 'giving environment'. Among neighbouring populations of cultivators, people perceive the environment as an ancestor: it yields bounty only reciprocally, conditionally for favours made – 'reciprocating environment'. People are tied in reciprocal obligations, where the act of giving is a request for reciprocity. They integrate both human and non-human components into one, all embracing cosmic sharing. Ingold (1996: 124) points out an inconsistency: although Bird-David aims to offer a culture-sensitive account of hunter-gatherer economy, she imposes the nature–culture dichotomy. To avoid this Ingold (1996: 150-51) advocates environment concept.

Morris (1998: 2) argues that the dichotomy of Western, 'Promethean' worldview representing the attitude of 'dominion' over nature, and non-Western, 'Sacramental', ecocentric worldview representing the 'benign' attitude (Bird-David 1990) is misleading. It overlooks history of Western science and worldview, diversity of human societies, those who are not gatherer-hunters, and for example *junglewala*'s conceptions are theocentric rather than ecocentric. The *junglewala*'s cosmovision model reveals an interrelationship of 'horizontal' (forest–village) and 'vertical' (heaven–earth) world, and harmonious interrelationship makes life and fertility possible. The *junglewala*'s forest use reveals a livelihood attitude to nature, 'the forest is mother' conception (social code) indicates a socially engaged attitude (empathy and kinship) to nature and interrelationship with nature, and rituals reveal a sacramental attitude to nature.

Several *junglewala*'s forest practices express the cycle and web of life worldview, a hybridity that combines the disposable, the giving, the reciprocating and the prohibiting worldviews as the cycle and web of life worldview. The *junglewala*'s conception of nature is cyclical and interrelated, whereas the foresters emphasise linear conceptions and separateness of plant, animal and human lives. Non-dualistic conceptions of the *junglewala* make polyvalence possible. The *junglewala*'s cosmovision model poses a challenge to environmental conception, anthropology and ecological science, because social and ecological relations are conceived interrelated, and hence Ingold's environment conception is helpful. These cultural conceptions and constructions have a direct bearing on resources, rights of access and ownership (Bird-David 1990).

worldview	**disposable**	**giving**	**reciprocating**	**prohibiting**	**cycle and web of life**
ethics	hit and run hoarding	opportunistic	conservative	protectionist	conservative and protectionist
economic relations	exchange	give	reciprocate and return	abstain	reciprocate and return
objective	profit	subsistence	manipulation or cultivation	preservation	subsistence and livelihood
rules	open access unsatiable market	entry and exit rules boundary rules	partitioning rules	cultural taboos and restrictions	cultural taboos and restrictions
action	mining	foraging	cultivating	conserving	foraging, cultivating, conserving
outcome	probably unsustainable probably inequitable	conditionally sustainable probably equitable	probably sustainable conditionally equitable	sustainable	probably sustainable conditionally equitable
policy interventions	reducing mobility, providing alternative livelihood strategies, agroforestry	adapting worldview, securing right-to-live-in, prevent incorporation, building institutions, strengthening communal structures	strengthening institutions, empowerment of women and poor, regulate incorporation	respect for culture	respect for nature–culture

Table 8. A typology of forest practices and worldviews (The first four types are adapted from Umans 1993: 25.)

A cycle and web of life worldview focuses on the continuity of living kinds, and includes cycles of reproduction, eating, growth, maturation, decline and death. Examples that indicate this worldview are rituals and festivals that relate to the agricultural and forest calendars, and the production and consumption of food through transformative processes (cooking in the earth by the sun and by water in kitchen fires) in the chain of being in the universe. According to the cycle and web of

life worldview, there is continuity among land use, bodily processes, and sociopolitical processes (food, cooking, offerings and blessings), which sustain life and well-being (Apffel Marglin 1990: 128-40; Malamoud 1996).[233] Birth and regeneration require spiritual and physical creation (Riviére 1975: 431). The substance of living kinds is flowing, and despite its continuous transformations, preserved. It is a reciprocal relationship, living kinds care mutually for each other's existential and reproductive needs (Mauzé 1998: 240). Among living kinds there are relations of protection, seduction, hostility, alliance, or exchanges of service (Descola 1992: 114).

For the Santal, dead ancestors and unborn generations are living kinds. The totemic clan organisation is not grounded on the living–dead dichotomy, nor on boundaries between plants, animals, humans and spirits. A cyclic worldview consists of revolving or recurring in cycles, such as tricycles or three generation system in Santal naming of the child after his or her grandparents (Culshaw 1949: 127). Fundamental to the Santal cosmovision model and kinship is the conceptual unity of alternate generations (Parkin 1992; Appendix 13). *Hoe* means 'to be' and 'to become' in Santali, and implies a cycle and web of life worldview. The progression in space–time happens in cycles (of energy of materials and non-materials). The successive phases (or alteration) of day and night, summer and winter, drought and rain, heat and cold, hunger and plenty, barrenness and fertility, *dia* (give) and *nia* (take), *niswas* (breating in) and *prasyas* (breathing out), and ancestors, living and unborn indicate the cyclical regeneration energy (power) of the cosmos. The *junglewala* interrelate bodily (corporeal processes and menstrual cycles), seasonal (cultivation and forest cycles), ceremonial, water, (re)birth–life–death, and cosmic cycles. In a cosmic cycle sacrifice and death as cosmogonic acts. A web implies an intricate structure sharing similarities with a woven fabric, such as the Mother Earth and women sharing similar substance, and both menstruating. A cycle and web of life worldview does not focus on the product–process distinction, but recognises the ambiguity of this relationship: (apparently) different products may be generated by the operation of the same underlying principle. This is combined with the ambiguity of the means–end (reasoning) distinction.

> The way people understand life and death is connected to the way they understand time.
>
> This is because death is inevitable and because the mere passage of time can be seen as bringing about inevitable events (Lakoff and Turner 1989: 34).

According to the Western scientific model, an animate being has a fixed (allotted) linear time on earth and then dies; time is a causal factor in inevitable events. According to the *junglewala*'s cosmovision model, an animate being may have many lives, deaths and births; an animate being can be reincarnated and be reborn. Hence, there is a cyclical view of time, world, life and death that combines natural,

[233] The peasants' model of land is similar to that of Physiocrats (Gudeman 1986), and to that of the *junglewala*. They are models of reproduction rather than models of accumulation. Land is a natural power that sustains the agricultural and economic cycle. To sustain the cycle, people draw on the power of the land, which is constructed as a force in nature outside their control (Gudeman 1986: 13). In Physiocracy, 'rule of nature', nature provided the foundation for society (Gudeman 1986: 80, 88). Humankind was considered to have three needs: to subsist, to preserve itself and to continue the species (Gudeman 1986: 72, 78).

human and cosmic spheres, and hence there is cosmological space–time.[234] For Westerners, death is a departure (Lakoff and Turner 1989: 68), for the Hindus and *junglewala*, death is a beginning of a new journey or cycle. For Hindus, Shiva is a constant reminder of the death–life and destruction–creation cycle. Some villagers' forest practices are grounded on myths, and imply a long-term perspective on forest use. Some *junglewala* consider time in terms of their ancestors and future generations, and emphasise long-term communal interests, and others see time in terms of their lifetime and focus on individual interests. Cyclical conception of time may appear as indifference to time – linear time (Dumont 1966: 195). 'The Asians are easy making promises because [... of the]eternity of time', according to a man working for an NGO in Delhi. In *jungelwalas*' cycle and web of life worldview living kinds are at one level mortal, and at another level immortal. Although this mutualism or fusion does not mean confusion, linear, dichotomous space–time model has authority over the cyclical one.

Adam's (1994) discussion of the anthropology of time, cultural constructions of temporal maps and images, and organic (birth–death cycle) and artefactual (clock) time is helpful.

> Time in the natural environment is characterized by rhythmic variations, synchronization and an all-embracing, complex web of interconnections. Linear sequences take place but these are part of a wider network of cycles as well as finely tuned and synchronized temporal relations where ultimately everything connects to everything else: the structure of an ecological system is temporal and its parts resonate with the whole and vice versa. Rhythmicity, therefore, forms nature's silent pulse (Adam 1994: 94-5).

Natural processes (regular and unpredictable) vary with contexts, and a vast range of time-spans coexist simultaneously. The artefactual world of human culture differs from temporal characteristics of living beings. Artefacts are created apart, they are externalised and isolated from the processes of life and ecological interconnections. These time-related characteristics of artefacts are central to the human impact on nature (Adam 1994: 96). Through artefacts human beings are able to gain knowledge beyond their personal worlds and extend themselves into the past and future. The linear-perspective vision and the creation of a clock time are externalisers, they separate subject from object, distance humans from experience, and facilitate mathematical standardisation.

> While the linear perspective translated depth levels into spatial distance, clock time represented the passage of time as distance travelled in space, or as measurement of length (Adam 1994: 98).

Time is moving; for the foresters, mostly as a line and for the *junglewala* (and the Greeks) as a cycle.[235] *Junglewala*'s forest practices reveal a non-temporal, non-linear, space–time conception of environment, in which cycles are sensitively recognised and their local effects and causes noted ('A and B mutually affecting one another').

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[234] *Samay* (s/he-me) means time in Kolho, Mundari and Oriya, and *bela* (a big cup) in Santali.

[235] For Capra (1997: 293), a major clash between economics and ecology derives from the fact that nature is cyclical (organic birth–death cycle), whereas industrial systems are linear (artefactual clock time). Capra (1997: 291) argues that 'Sustainable patterns of production and consumption need to be cyclical, imitating the cyclical processes in nature'.

Within and beyond dualism

People in different ontological positions construct multiple realities and different socially-situated truths. The foresters treat what for the *junglewala* is a cycle and web of life, as a number of separate entities to be exploited by different interest groups. This arbitrary separation has alienated humans from nature and from our fellow human beings, and thus diminished us. For the foresters, life is a competitive struggle for survival, a combat of each individual. For the *junglewala*, life is a triumph of networking and co-operation. *Junglewala*'s interrelatedness view encourages collaterality among living kinds, whereas foresters' dualistic thinking emphasises the individual, the subject–object dichotomy, and demand 'abandonment to the very life of the object' (Hegel 1910: preface). The foresters tend to see trees as machines (parts exist for each other), and the *junglewala* as organisms (parts exist by means of each other). Rather than being a machine, nature is unpredictable, sensitive to the surrounding world.

Junglewala's forest practices cannot be understood by privileging ethnoepistemology and -ontology of Western science. The *akhand sikar, jhahiras* and myths, rituals and festivals related to them cannot be understood without the cycle and web of life worldview and cosmovision model. The forest combines the three spheres, and is both a context and condition of survival. To maintain harmony among the spheres the *junglewala* propitiate spirits. Although Parajuli writes about *adivasi* cosmovisions, the following applies to the *junglewala*, in their

> cosmovisions, nature is not an object, an "it", but a community of complex, living, interdependent creatures nurturing each other and being nurtured in turn. *Nature is not a piece of wilderness which is under threat; what is threatened is the very nourishing relationship that connects human, natural and supernatural spheres* (Parajuli 1996: 2; italic in original).

The zone of intersection expands or shrinks depending on the extent of bonding between these three spheres. Several *junglewala*'s forest practices indicate that the most important field of the *junglewala*'s cosmovision is the zone where the spheres intersect. Parajuli (1996: 15) argues that the more they overlap, the healthier the ecological cosmovision of a community. His interpretation emphasises the natural sphere of the cosmovision model (as in natural sciences and Western environmentalism), although the *junglewala*'s conceptions are theocentric rather than ecocentric, and different spheres are inseparable from the greater whole. There is a dialectical development among the spheres rather than causal link or one sphere determining the other. The spheres mutually reinforce the system as a whole, and if one element is weakened, the whole system is weakened.

Junglewala's life-affirming practices of prudence, reciprocity and restraint (sacredness of land and trees, and earth, tree and plough worship) nurture nature–human–cosmic connections by ensuring natural renewal. Everyday farming and the celebration of festivals are dialogues among the spheres. The *junglewala* aim to work with nature (soil, rain, sunshine) rather than conquer and control it. Agents' attitudes towards nature define their existence as human beings and how they relate to each

other (Parajuli 1996: 15, 26, 16). The Mother Earth can be nurturing and dominating, and the *junglewala* respect and fear her. The *junglewala* perform many sacrifices and rituals to keep the Mother Earth happy and nurturing rather than angry and rendering violence, calamities and infertility. Forest practices are sustainable, if they are life-affirming. Life-threatening forest practices exploit nature rather than replenish it in the process of using it, as the difference between logging and gathering shows. 'Living off renewable flows' livelihood rather than 'living off exhaustible stocks' makes sustainability possible. A way towards sustainability is to have *gachha* instead of *katha*; to keep trees living (intact) and manage NTFP.

An investigation to forest practices as cultural meaning systems reveals the play of tropes in forest practices. The *junglewala* make earth–mother, nature–society, and nature–god analogies, because understand nature, humans and spirits as living kinds, as alive, and creative in maintaining life. The Mother Earth, earth and women are conceived as the same substance in different forms, and the same applies to the sun, sky and men. The *junglewala* conceive plant–animal–forest–field fertility and human fertility as parallel phenomena. The *junglewala* cherish trees' antiquity and their link with the past (ancestors) and future (unborn), and spirits (tree-worship). Particular trees represent gods, goddesses, families, individuals, or the Jharkhandis' claim for self-rule ('teak is *sarkar*, *sal* is Jharkhand'). Cosmovisions cannot be understood by focusing on one particular activity, such as knowledge about plants, since they are part of origin myths, folklore, rituals, social organisations and forest practices. *Junglewala*'s cosmovisions and identities grounded in them have become politicised through ethno-ecological movements, which have renewed subjugated traditions of knowledge (Parajuli 1996: 32). Global agents tend to conceive the *junglewala* as local agents, and have overlooked the capacity of the *junglewala* to unite as the Jharkhandis and make regional claims to self-rule, and challenge current forest policies and practices (Appendix 20).

Folksongs show an interconnectedness among living kinds, and express exemplars of correct behaviour. Folksongs have pedagogic normative functions and construct metaphorically a worldview and cosmovision model. Folksongs help tuning in to the music(al) experience of interrelatedness of life (Schutz 1951: 84; Lévi-Strauss 1981: 670; 1986: 23; Fernandez 1986: 192). *Junglewala*'s rituals express the structure of mutualism and interdependence. Through their ritually regulated cultivation, gathering and hunting, the *junglewala* put their cosmology into practice. Through myths and collective rituals cosmology is socially reproduced as a coherent whole that participants personally experience, and (re)shape their conceptions of reality and actions. Individuals go within and beyond their bodies and human sphere to explain illness, barrenness, fertility and drought. The *junglewala* classify the forest, make distinctions, and there are differences, but no dichotomies. The *junglewala* emphasise the unity of all life (in its diverse forms) and interrelatedness of natural, human and cosmic spheres (similarities with the Chewong, Howell 1996: 136-40). Material, human and cosmic spheres are inseparable, and each is conceived and understood with the other spheres. If there is harmony among the spheres of living kinds, there is continuity of life. The *junglewala* aim to be in touch and in tune

with life rather than trying to control against life. *Junglewala*'s cycle and web of life worldview and cosmovision model do not focus on making space and time into different separate categories of experience. *Junglewala*'s belongingness is to the cosmos as a whole, where there is an interrelationship among micro- and macrocosmic factors.

Despite the importance of the forest for the *junglewala*, they are neither 'children of the forest' (Roy Burman 1982), nor 'ecologically noble savages' (Conklin and Graham 1995) as some environmentalists and Jharkhandis argue. These cultural representations are grounded more on images than reality, and are used for contradictory purposes: some use them as ideological legitimisation of the state forest practices, the *Diku*-rule and foresters' knowledge, others turn the *junglewala* into the role models of the symbiotic relationship with the forest. Nevertheless, forests are an integral part of the *junglewala*'s sociocultural life. The forest is the home of the spirits, the place of worship and the seat of the ceremonies. Even where the *junglewala* have long ago been settled farmers, gathering and selling of forest produce are sources of sustenance and income. Origin myths, totemic clans and clan names, humanised and personified plants and animals (conceived like relatives by extending kinship terminology to them), and botanised, zoomorphised humans and spirits (women as flowers, men as cuckoos, and trees as gods) reveal the Santal cosmovision model that makes no nature–culture dichotomy. The nature–human solidarity is expressed in the anthropomorphisation of nature (humanisation plants and animals), and in the assimilation of humans and the social world (botanisation and zoomorphisation of humans) to nature. The natural–cosmic solidarity is expressed in cosmisation of nature and anthropomorphised deities.

The arguments of reality and truth are rooted in language, and words are based on agreements. The Santal ontological explanations of phenomena partly differ from those of the foresters. Several processes lead people to find a set of cultural assumptions concerning cosmic entities (magic and witchcraft) and events (rituals) plausible. For the Santal, knowledge representation, belief fixation and ritual actions are grounded on the myths of origin and continuing practices related to them (Boyer 1993: 27). For the foresters, they are rooted in formal education, Western scientific knowledge, dualistic thinking and cosmovision model. *Junglewala*'s life world of living kinds reveals no material–cosmic (unseen) dualism. Their vitalistic and pantheistic attitude towards the world has similarities with the Greeks: for both, organisms have latent capacities and the natural world has agency.

Most *junglewala* refer to forest protection as going back to something that was practised earlier (during Maharaja rule), whereas the foresters and NGOs think of it in terms of creating a new awareness among the *junglewala*. The compartmentalised Departments of the State managing forestry, irrigation and agriculture separately, foresters' industrial mode of extracting from the forest and their Western scientific way of comprehending it is different from the *junglewala*'s mode in the volume, method, pace of use, for what purpose and in the degree to which humans separate themselves from nature. The *junglewala* are not averse to 'development', but neither they accept everything that this label

may mean, such as resettlement from the Simlipal Biosphere Reserve. The *junglewala* question the idea of what is waste and economically useful as well as the linear development model focusing on material meanings that may not be transformative for happiness, freedom (Padel 1995: 311) or sustainability. Contrary to the assertions of many foresters, the *junglewala* argue that they can protect forests. Yet when the *junglewala* are involved as primary producers for sale (*sal* plate-making), they take part in the commercial mode. The natural, human and cosmic relationship is not fixed, but a continuously negotiated process according to the modes of livelihoods people pursue (Parajuli 1996: 23).[236] The *junglewala*'s cosmovision model may be better adapted to deal with a situation of imperfect knowledge than that of the foresters (Gadgil and Guha 1995*a*: 52-3). This idea runs counter to the orthodoxy of the openness of science, and the dichotomy of scientists' open mode of thought and local people's closed, traditional mode of thought. Although there have been changes in forestry books in twenty years, foresters tend to learn it for life in foresters' training colleges. Whereas *junglewala*'s knowledge, worldview and cosmovision model are embedded in practices, and if there is a change with practices, the whole thing will change. The difference is between two competing economic modes, modes of thinking, worldviews and cosmovision models.

Although the Western scientific knowledge discourse can be used to make other models irrelevant, its dualistic and linear thinking and models cannot incorporate the complexity of meanings, how metaphors affect practice (in 'hard' science as much as anywhere) or interpret symbolic ordering of thought. For these purposes, non-dualistic and cyclical thinking and models and multiple appraoch may serve better (narrowing the gap between material and immaterial understandings of the forest). I oppose the Durkheimian (1963) evolutionary view that the belief in the whole is less developed: human consciousness as evolving from synthetic to analytic capacities, and from collective representations through individualisation to personal symbols (Fernandez 1986: 189). If rationalities and contexts of all kinds of knowledge are considered on equal footing, new perspectives on forest practices are gained.

[236] People's nature–culture conceptions, as a dichotomy (Lévi-Strauss 1966), a continuum (Descola 1994), as interrelated, influence how nature is appropriated, and what they conceive the role humans or spirits to be in this. Although there are life-supporting and life-threatening classifications and practices, nature is living rather than fixed, and fixed categories related to it create an impression of nature being unchanging.

APPENDICES

Appendix 1. A note on languages, transliteration, names and abbreviations

Oriya, an Indo-Aryan language, is the language of Orissa and is one of the 15 regional languages officially recognised by the Indian government. Oriya is least affected by the Perso-Arabic influence, and nearest to the Origin Sanskrit. The language of ancient Orissa was a tribal dialect based on Mundari, a localised form of Austeric language. It was much later that the influence of Sanskrit came. Oriya is part of the Sanskritic group of northern India. The Eastern Magadhan family (Assami, Bengali, Oriya) belongs to the eastern members of the New Indo-Aryan family of languages. Some scholars trace the origin of the Oriya literature to the 9th century AD, and a regular stem of poetry to 13th century (Ghosh 1993: 49). Languages spoken in Mayurbhanj are Bengali, Bhumiji, Guaumukhi, Gujarati, Hindi, Kolho, Mundari, Oraon, Oriya, Santali and Urdu. Many *adivasi* communities have adopted Oriya as mother-tongue: Amatas, Bathuris, Bhunj Purans, Bhuyans, Dharuas, Gonds, Gunjus, Jharas, Kaurs, Ojhas and Rajuars. According to the 1961 Census, half of the inhabitants in the District speak Oriya as their mother-tongue. Bilingualism is common among the *adivasis*.

I use pseudonyms for villages and individual informants in the text to respect their privacy and desire for anonymity. Some informants asked me not to tell others what they had said to me. Otherwise I use the real names of places. I have added the letter '(e)s' after native terms when I refer to them in the plural form, apart from *-wala* ending words (singular = plural). A select glossary is attached as Appendix 8. Most of the Indian words given in the text are in Oriya. When I use Hindi, Kolho, Mundari, Santali or Sanskrit words, I refer to the community or make a special mention of which language is used. I have changed the Oriya and *adivasi* measures to those used in English. In the text I use the Indian rupee (abbreviated Rs.) as the monetary unit. The rate of exchange of the rupee to the dollar in 1997-98 was approximately Rs. 36 per dollar. The following abbreviations are used in the appendices to refer to different languages: E = English, K = Kolho, M = Mundari, O = Oriya, S = Santali and Sans. = Sanskrit.

If I have marked *andha biswas* (blind belief) or 'blind belief' (*andha biswas*), it means a literal translation, and if *sunyagadi* (zero-cart; bicycle, non-literal translation) zero-cart is literal translation and bicycle is a non-literal one.

Appendix 2. A seasonal calendar of agricultural produce[237]

month	cereals	pulses	vegetables	water source
1. *Chaitra* (15 Mar - 15 Apr)	wheat		potato, cucumber, gourd, aubergine	(no cultivation unless) irrigation
2. *Vaisakha* (15 Apr-15 May)			maize	irrigation
3. *Jyaishtha* (15 May-15 June)	paddy			irrigation
4. *Ashadha* (15 June-15 July)	paddy		pumpkin	monsoon
5. *Shravana* (15 July-15 Aug)		cow pea, field pea		monsoon
6. *Bhadrapada* (15 Aug-15 Sept)		cow pea, field pea	sweet potato	monsoon
7. *Ashwina* (15 Sept-15 Oct)	wheat paddy	bean, mustard, pea	cauliflower, cucumber gourd, potato, tomato, gram, maize	residual moisture
8. *Karttika* (15 Oct-15 Nov)	paddy	bean, pea	cauliflower, cucumber, gourd	residual moisture or irrigation
9. *Margashira* (15 Nov-15 Dec)	paddy	bean	onion, pumpkin gourd, sweet potato, gourd	irrigation
10. *Paunsha* (15 Dec-15 Jan)		bean, gram	aubergine, cabbage, maize, garlic, mustard, onion, potato, tomato	irrigation
11. *Magha* (15 Jan-15 Feb)				irrigation
12. *Phalguna* (15 Feb-154 Mar)	wheat	bean	aubergine, cabbage, lady's finger, tomato	irrigation

[237] Hindu calendrical systems are based on a geocentric universe in which the earth is orbited by the 'nine planets' (*navagraha*): the sun, the moon, Mars, Mercury, Jupiter, Venus, Saturn, and two mythical planets, *Rahu* and *Ketu*. Seven weekdays are named after the first seven planets (Sunday to Saturday). Each day starts at sunrise, rather than midnight (Fuller 1992: 263). A lunar calendar is used in Orissa. Lunar months start from *chaitra* (15 March to 15 April).

Appendix 3. A seasonal calendar of forest produce; p = peak season; m = middle season; l = low season; c = children; m = men; w = women; h = herder; b. = berry, fl. = flower; s. = seed

Name of forest produce	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	By whom
1. *sal* leaf	m	m	m	m	p	p	m	m	m	m	m	m	w, m, h
2. *siali* leaf	m	l	l	m	m	m	p	m	m	m	m	m	w, m, h
3. *chars.*[238]				p	p								m, w
4. *karanjas.*				p									w, m, c
5. *kusum* s.						p	p	l					w, m
6. *mahua* s.							p	l					w, m
7. *sal* s.					p	p	l						w, m, c
8. *mohua* fl.[239]		l	p	l									w, m, c
9. *amla*	p	p	l										w, m
10. *bahada*	m	l										p	w, m, c
11. *harida*	m	l										p	w, m
12. *jamu* b.						p	p						w, m, c
13. resin,	l	l								p	p	m	m, Kharia

[238] With seeds there is no middle period, for instance when *sal* seeds are ripe, they fall down from the tree. *Siali* seed is collected in December and January.

[239] *Mohua* flowers are called *mahul*. They are edible, and distilled for alcohol. Fruits are edible, and seed-oil is also made.

gum [240]													w
14. arrowroot, *palhua*	p	m	l										Kharia, Kolho w, m
15. honey [241]	l	l	l	l	p	p	l	l	m	m	l	l	m
16. barks	p	l	l	l	l	l	l	l	l	l	l	p	w, m
17. broom stick	p	p	p	p								l	w, m [242]
18. guava							p	p	l				w, m, c
19. jack fruit [243]						p	p	l					w, m, c
20. mango				l	p	p	l						w, m, c
21. *siali* fibre	m	m	m	l	l	l	p	p	p	p	p	p	m,w, c
22. fire wood	p	m	m	p	p	l	l	l	l	m	m	m	w, m, c

[240] After resin gum comes from the trees. Collectors make small cuts to the trunk of the tree, and collect gum once in two weeks for three times, and after one year again.

[241] After honey, wax comes; wax is a by-product of honey. The Santal distinguish five different kinds of honey (Bodding 1986: 470).

[242] Broomsticks are collected by mainly Kolho, Mundari and Kharia women and men. Brooms are made from the straw of *sirom*.

[243] The Santal said that if any person steals a jackfruit, then the fruit size will be small in that tree.

Appendix 4. Different uses of 21 forest trees

Tree	Fuel	Timber	Food	Oil	Medicine	Fodder
amla	*	*	*	*	*	*
asana	*	*			*	*
bahada	*	*	*	*	*	*
bara	*	*	*			*
bel	*		*		*	*
dhaw	*	*				*
gambhari	*	*				*
harida	*				*	*
jackfruit		*	*		*	*
karam, koim		*				*
karanja	*			*	*	
kendu	*	*	*		*	*
kusum	*	*	*	*		*
mahua	*	*	*	*	*	*
mango, *amba*	*	*	*			*
neem	*	*	*	*	*	*
pipal, aswastha	*		*			*
sal	*	*	*	*	*	*
semal	*	*	*			*
tamarind, *tentuli*	*		*		*	*
teak, *saguan*	*	*				

Appendix 5. A matrix ranking and scoring of forest plants[244]

Species	agricultural implements	household furniture[245]	medicinal plants: household use	medicinal plants: commercial use	country liquor & beer	food: household use	food: commercial use	shadow	fodder	house construction[246]	fencing household, kitchen garden	fuel wood
1. *akanbindu*				1a[247]	3							
2. *amba*		6a				1a	1a	2a				7a
3. *ambada*			3e			2b	2e					
4. *amla*				5a		4c	5b		2 goat			6c
5. *asana*	x	7a									4b	1b
6. *asok*				3b								
7. *aswastha, pipal*								2c				
8. *ata, ato*						1d	1c					
9. *bahada*				5c								6e
10. *baidanka*			4f	4c								
11. *baunsa*											2a	
12. *bara*								1d				
13. *begundia*											1c	3c
14. *bel*			3d			1e	2b					
15. *bhuini khakaru*			4e	4d								
16. *brahmi(lata)*						5b						
17. *chadeigudi*		7b								1d		
18. *chainikatha*				4e[248]								
19. *champa*		7c										
20. *char*												7b
21. *chireita*			2b									
22. *daucha*						3b	1d					

[244] Number one stands for the best one. When there are letters used after numbers (1a, 1b) the plants are of similar rank having only a minor quality difference between them.

[245] In the hill area, only the first four are used.

[246] *Sal* is used to construct a roof. *Sal, piasal, gambhari* and *karam* are used to make *chaukatha* (frames of doors and windows). *Karam* is used for house construction and irrigation purposes.

[247] To prepare *handia, akanbindu* and *patalgaruda* roots are mixed (sometimes also other roots). Four *ganda* (pieces) of *ranu* per one kilogram rice. *Ranu* with five kilograms of *usuna* rice is boiled with six *bela* (waterpot) of water, and after three days of fermentation it is ready to drink. *Gaisira* is the most common *ranu*, and its market price was Rs. 4-5/kilogram. *Patalgaruda* roots cost Rs. 12 per *mutha* (a handful of pen-size roots as many as you can hold with fingers of one hand). In Jashipur 100 *mutha* of *akanbindu* cost Rs. 500. The bribe for a cement bag of *akanbindu* roots was Rs. 50 in 1997. Some come from Chainbasa (Bihar) to collect it from Simlipal.

[248] It was collected five years ago in Simlipal, but has become exhausted locally.

23. *dhaw*			3a								4c	1a
24. *dhatki*										4b	1d	6a
25. *dumuri*									1b			
26. *gambhari*	x	3								1f		8b
27. *gangasiuli*			2c	1b	4					4a	1b	4c
28. *harida*				5b								6d
29. *jamu*			3c		2	2a	1e	1a		3a	4a	4d
30. *jesthamadhu*												8a
31. *koim*		6c								2a	3d	4a
32. *kantakoli*			3g			3c	5a					
33. *karanjia*				6b				1e				6b
34. *kargale*											1a	
35. *kasi*										2c		5a
36. *kendu*		5	3b			2c	1f					4b
37. *khankada*										3b		5b
38. *kulutchi*												7c
39. *kulta*												2b
40. *kusum*	x			6a			3b	1b				3d
41. *mahua*					1	3a	3a			2d	3b	3b
42. *makar kendu*												5d
43. *mehendi*			1b									
44. neem[249]				6c		5a	4	2b	3 buffalo	2e		
45. *niuri* (Santali)												1f
46. *panas*		6b				1b	1b					
47. *panjan*	x									1b		1d
48. *paruli*	x											5c
49. *patalgaruda*			2a	3a								
50. *piasal, bija*		1	1a	2a					1a			2a
51. *pitalu*						4a	2c					
52. *ramdantun*			4a	4b								
53. *rimuli*												2c
54. *rohini*			5a									
55. *runj(a)*			4d									
56. *sal*	x	4	4c							1a	3a	1c

[249] Neem has multifarious medicinal properties, and different parts of the plant are used: leaf, gum, flower, fruit, seed, and non-edible oil. Neem cake is used as organic manure and in the management of insect and pests. It is called 'a green contraceptive', 'a wonder tree' and 'nature's drugstore'.

57. *sambarkan i*			5b	2b								
58. *satabari*			4b	4b								
59. *siali*						4b	2d			5a	2c	
60. *sidha*										2b	3d	2d
61. *sisoo, sisam*	x (hill area)	2										
62. *sunari*	x									1c		
63. *tentuli*			6	7		1c	2a	1c				
64. *tilou, tilei*												3a
65. *udal*										5b	2b	

Appendix 6. Glossary of vernacular and botanical names of forest species (Haines 1925; working plans)

A. Tree species

	Vernacular names (most in Oriya); some English names	**Botanical names**
1.	*achundi; achu; ach* (H)	*Morinda tinctoria, Roxb.*
2.	*amba*; mango	*Mangifera indica*
3.	*ambada, amda; amari;* hog plum, wild mango	*Spondias pinnata (L.f.) Kurz.; Spondias magnifera, L.*
4.	*amla, ainla*; Indian gooseberry	*Emblica officinalis*
5.	*ancle; dhela* (S)	*Alangium Lamarkii thw. (Alangiaceae)*
6.	*arjun(a)*; arjuna myrabalan	*Terminali arjuna, Roxb.*
7.	*asan*(a) or *sahaj; atana* (S)	*Terminali tomentosa Wt. et Arn. (Combretaceae)*
8.	*asok*	*Saraca asoka (Roxb.) de Wilde*
9.	*ashoka*	*Polyathia longifolia*
10.	*ata, ato; sitaphal*; The custard apple	*Annona squamosa, Linn.*
11.	*babul;* Black babool, Indian gum arabic tree	*Acacia nilotica, Linn.*
12.	*bahada*	*Terminalia bellirica Roxb.* (no.48)
13.	*banyan*	*Ficus indica*
14.	*bara*	*Ficus bengalensis*
15.	*barabakalia, dhuben*	*Dalbergia paniculata*
16.	*bel*(a), *belo;sinjo* (S); bael tree	*Aegle maralos* (l.) Corr.
17.	*bhalia* (*dhobinut*, marking nut yields black dye)	*Semecarpus anacardium*
18.	*bhorda*	
19.	*chadeigudi*	*Vitex penducularis* Wall. ex. Schauer
20.	*chakundia, sujunipati*	*Dalbergia lanceolaria, L.f.*
21.	*champa*	*Michelia champaca*
22.	*chandan, chandono;* sandalwood	*Santalum album, Linn.*
23.	*char*	*Buchanania lanzan*
24.	*chauli*	*Elaeodendron glaucum*
25.	*churchu* (K,M, S); *khankada* (O)	*Caseria elliptica; Careria tomentosa*
26.	daucha (O), dhaniya (H); Coriander	*Corunadrum sativum, L.*
27.	*deodar*; Himalayan cedar	*Cedrus deodara (Roxb. ex D. Don) G. Don*
28.	*dhaw, dhaura*	*Anogeissus latifolia Wall.*
29.	*dimri, dimuri, dumuri*; cluster fig	*Ficus glomerata*
30.	*doka, mode*	*Odina wodier, Roxb.*
31.	*(pani)dumburi* (lac cultivated)	*Ficus racemosa, L.(Ficus semicordata Buch-Ham. ex J.E. Smith*
32.	*gambhari; gandari* (S)	*Gmelina arborea*
33.	*genduli, kauili*; kuteera gum tree	*Sterculia urens, Roxb.*
34.	*gone;gonei, mirgi chara; goneyer* (K)	*Grewia elastca*
35.	*gudikoim, mundi*	*Mitragyna parviflora*
36.	*gulachhi; guleichi; gulachin, gulchin*	*Plumeria acutifolia, Poir.*
37.	*gumari*	*Gmalina arborea*
38.	*harida*	*Terminalia chebula retz.*
39.	*jali*	*Elaeocarpus serratus, L.*
40.	*jamu, jambu*; java plum (E)	*Syzigium cumin (L.) Skeels; Eugenia jambolana*
41.	*kaitha, koitho*; wood apple (E)	*Feronia elephantum; Feronia limonia, Linn.*
42.	*(banya) kantakoli, ghot*	*Zizyphus rugosa lam.*
43.	*karam, kurum, koim*	*Adina cordifolia*
44.	*karanjia*; Indian beach	*Pongamia pinnata, Pierse*

45.	*kargale* (S); *pa(a)su* (O), *pahasu* (K), *palasu* (M)	*Cleistanthus collinus (Roxb.) Benth et Hook.f. (Euphorbiaceae)*
46.	*kasi*	*Bridelia airyshawii P.T. Li*
47.	*kendu* (leaves used to roll *bidis*, cigarettes)	*Diopyros melanoxylon Roxb.*
48.	*khankada*	*Casearia tomentosa Roxb.*
49.	*khejuri, khajuri*	*Phoenix sylvestris*
50.	*kuchila, kochila*	*Strychnos nuxvomica*
51.	*korora; karanda*	*Cleistanthus collinus, Benth.*
52.	*kulta, kulthia, kulti* (O); *ganyara* (K,M); *olad* (S)	*Grewia subinaqualis Dc. (Tiliaceae)*
53.	*kultho, dhaman, dhamuri, bhangia*	*Grewia tiliaefolia, Vahl.*
54.	*kulutchi*	*Holarrhena pubescens (buch-Hum.) Wall.ex.G.Don*
55.	*kumbhi*	*Careya arborea*
56.	*kusum*[250]	*Schleichera oleosa (Lour.) Okem.*
57.	*lankavalia, lankabadam; kaju*; cashew(nut) tree	*Anacardium occidentale, Linn.*
58.	*mahua, mohua, mohuka, mahul*	*Madhuca indica gmek*
59.	*makarkendu, mankadakendu*	*Diospyros peregrina*
60.	*mankad pichhila; telhej, telhec'* (S)	*Sterculia urens Roxb.* (Sterculiaceae)[251]
61.	*merlei; kotadhawra; mamuri; balibhaincho; kontakuli*	*Flacourtia ramontchi, L'Herit*
62.	*neem* (*kakopholo*); Indian lilac; margosa tree	*Azadirachta indica L.*
63.	*niuri* (S)	*Elaeodendron, Jacq. f.*
64.	*paldhua*	*Erythrina indica*
65.	*panjan, panjam, bandhan*	*Ougenia oojeinensis;Ougenia dalbergioides*
66.	*panas(a), ponoso*; jackfruit tree	*Artocarpus heterophyllus*
67.	*panigamar(i)*	*Trewia nudiflora*
68.	*paruli, patuli*	*Stereospermum suavedens*
69.	*phanphanna, phompania, fenafena* (O); *banahata(k)* (S); trumpet flower	*Oroxylon indicum, Vent.; Oryxylum indicum, Vent.*
70.	*piasal, bija*	*Pterocarpus marcupium roxb.*
71.	*pipal, aswastha*	*Ficus relegiosa*
72.	*polas, palasi, polaso* (O); *dhak* (H); *muruda* (K,M,S); *murup'* (S); the fire/flame of the forest	*Butea tomentosa travb. (Fabaceae)* *Butea frondosa, Roxb. (small tree)*
73.	*rimuli, rajmohi; gandeyar* (S)	*Protium serratum (Wall. ex Colbr.)*
74.	*ritha*; soupnut, source of saponin	*Sapindus emerginatus*
75.	*rohini* (K), *suam* (O)	*Soyamurda febrifuga, A. Juss.*
76.	*saguan*; teak	*Tectona grandis, Linn.*
77.	*sajana, munga*; drumstick	*Moringa oleiffera, Lam.*
78.	*sal*	*Shorea robusta gaertn.*
79.	*sala(i)*[252]	*Boswellia serrata*
80.	*sambarkani*	*Clerodendron serratum spreng.*
81.	*sidha, senha*	*Lagerstromia parviflora Roxb.*
82.	*simli* (O), *edele* (K,M,S); the red silk-cotton tree	*Bombax ceiba L. (Malvaceae)*
83.	*simul, semul*	*Bombax malabaricum*
84.	*sinjo* (S)	*Aege Marmelos, Correa*

[250] *Kusum* has oilseed, and is a good host for a small insect, *Laccifer lacca*, lac secretion of insect. *Swad kusum* (O) or *baru* (K, S) is *Schleichera trijuga, Willd.*

[251] Monkey (*mankad*) is not able to climb the tree - the trunk is plain. The seeds are eaten and bark yields fibre.

[252] *Sala* is a softwood tree, and wood is used for charcoal. It yields a golden-yellow gum-resin, which is fragrant and transparent. The leaves are hung in cattle-sheds to drive away flies. It can be grown from large cuttings.

85.	*siris* (black); Siris tree	*Albizzia lebbek, Linn*
86.	*siris* (white)	*Albizzia procera*
87.	*sisoo, sisam*; rosewood	*Dalbergia latifolia* (forest)
88.	*sunari, sonari, mirubaha* (S); Indian laburnun	*Cassia fistula L.*
89.	*tarob* (K,M,S); *charkuli* (O)	*Buchnania lanzan Spreng (Anacardiaceae)*
90.	*tentuli*; tamarind (E)[253]	*Tamarindus indicus*
91.	*terel*	*Diospyros tomentosa*
92.	*thaura, tambol, balu-dumari*	*Ficus hispada, L.; Ficus oppositifolia, Roxb.*
93.	*tilai* (O,K,S); *hundur* (M)	*Wenlandia tinctorea dc. (Rubiaceae)*
94.	toon; the toon tree	*Cedrella toona, Roxb.*
95.	udal (S), kodalo (O)	*Sterculia colorata, Roxb.*

B. Herbs & Shrubs

1.	*arkha, arka*; crown plant (Madar)	*Calotropis gigantica*
2.	*banakhejuri, bhuikhajuri*	*Phoenix acaulis*
3.	*bana kulutha*	*Atylosia scarabaeoides, Benth.*
4.	*banasorish*	*Veronia teres*
5.	*basanga, basongo*; Malabar nut	*Adhatoda vasica*
6.	*begonia*	*Begonia picta, Sm.*
7.	*begunia; Indian privet*	*Vitex negundo, Linn.*
8.	*betel vine creper;* betel-leaf pepper[254]	*Piper betle, L.*
9.	*bhuim kusum* (O), *ote-champa* (K,M,S), *kala-met* (S)	*Premna herbecae, Roxb.*
10.	*burukoli*	*Zizyphus oenoplia miller (Rhamnaceae)*
11.	*chakanda*	*Beta vulgaris, L.*
12.	*cakunda, cakvat* (H); Foetic cassia	*Cassia tora, Linn.*
13.	*chireita, bhuikhajuri*	*Andrographis paniculata Wall.*
14.	*dhatki, jatiko*; fire-flame bush	*Woodfordia fructosa, Kurz.*
15.	*gangasiuli, gotikhadika*; night jasmine	*Nyctanthes arbortristis L.*
16.	gendu, sadabarg; marigold (E)	*Tagetes erecta, Linn.*
17.	*golachi*; Pagoda tree; Spanish jasmine	*Plumeria acutifolia poir*
18.	*Iswar jata;ganjachula;* cock's comb; woolflower	*Celosia cristata* // or *Celosia argentea*, Linn.
19.	*jesthamadhu*; Liquorice	*Glycrrhiza glabra, Linn.*
20.	*kaner, kanel, karpad* (H); *karabira* (O) *Rajbaha* (S); Oleander flower	*Nerium indicum, L.*
21.	*lajkuri*; sensitive plant	*Mimosa pudica, Linn.*
22.	*mandar*, common garden hibiscus, Chinarose, Chinese shoe-flower	*Habiscus rose sinensis, Linn.*
23.	*man-kandu* (H); *man-kanchu* (Bengali)	*Alocasia indica, Schott*
24.	*mehendi, mohara*	*Dodonaea viscosa, Linn.* (shrub or small tree)
25.	*mendi*; emetic swallow	*Tylophora asthmatica, Wight & Arn.*
26.	opium	*Papaver somiferum*
27.	*palhua; Paro (K), Tikari, Tikur (H)*; arrowroot	*Curcuma angustifolia, Roxb.*
28.	*patalgaruda* (has drug extract reserpine)	*Rauvolfia serperntina benth. ex. kurz*
29.	*ran ranu* (S); Long peper; Pipal (for *handia*)	*Piperaceae longum*

[253] Tamarind is a fruit source of tartaric acid, used extensively in foods.

[254] *Paan* is made from the soft green leaf of the *betel* vine-creeper, which is folded around a mixture of crushed *betel-palm* nuts, *catechu*, slaked lime (calcium hydroxide), a red vegetable dye, and sometimes with tobacco. Chewing *paan* turns the mouth and tongue red. If it has been a habit for a long time, teeth have *paan* stains. Hindus offer *paan* to the gods as part of Hindu worship.

30.	*runj, gunja;* Indian liquorice, Crab's eyes (the seeds)	*Arbus preactorius, L.*
31.	*sahada*	*Streblus asper*
32.	*tilou, tilei*	*Woodlandia exerta*
33.	*tulosi , (ban)tulsi*[255]	*Ocimum sanctum*

C. Bamboos & Grasses

1.	*baunsa, daba, kanta bans, kontabanso*; thorny bamboo[256]	*Bambusa arundinacea Retz. Willd.*
2.	*dungibans*	*Cephalostachyam pergracile*
3.	*salia bans*	*Dendrocalamus strictus*
4.	*murga*; bowstring hemp	*Sansevieria zeylanica, Willd.*
5.	*broom* grass	*Thysalonanea maxima; Aristida depressa*
6.	*dubo* (O), *dhubi* (S) grass	*Cynodon dactylon, Pers. Reg.*
7.	*guguchia (saga)*	*Chrysopogon aciculatus trin.* (Poaceae)
8.	*putus* (K), *naga-airi*; lantana (E)	*Lantana camara, Linn. ; Lantana camera*
9.	*sabai* grass	*Pollindium angustifolio; Ischenemum angustigolio; pullinia eripoda; Spodiopogoon angustifolim; Eulaliopsis binata*
10.	*siram, sirom*	*Andropogon muricatus Retz.*
11.	*tatch* grass	*Themeda arundinaceae*

D. Climbers

1.	*akanbindu, gaisira, ranu* (for *handia*)	*Cissampelos pareira L.*
2.	*anantamula, onantomulo*; Indian sarsaparilla	*Hemidesmus indicus, R. Br.*
3.	*atundi*	*Combretum roxbaghii*
4.	*baidank(a), bichhuati*	*Mucuna pruriens (L.) Dc.*
5.	*(bana)malli; mali baha* (K, M, S); Arabian /Tuscan / Sambac jasmine	*Jasminum arborescens; Jasminnium sambac Linn. Ait*
6.	*belophulo*; jasmine (E)	*Jasminum sambal, Linn.*
7.	*bhuini khakaru*	*Puereria tuberosa (Roxb. ex Willd.) Dc.*
8.	*kaima; kathal; ambalota*	*Bauhinia racemosa*
9.	*brahmi(lata)*	*Centella asiatica*
10.	*pitalu*	*Dioscorea wallichii J.D. Hook*
11.	*ramdantun*	*Smilax ovalifolia roxb.*
12.	*siali*	*Bauhinia vahilli*
13.	*satabari*	*Asparagus racemosus willd.*

[255] *Tulosi* is related to basil. Hindus regard it sacred and it grows in many Hindu courtyards. *Tulosi* represents a mythological figure of the same name (also called *Manasa*, the goddess of snakes, who is the daughter of Shiva, and rules the worlds below) one of the consorts of Vishnu, who devoted to her demoniac husband-king. Especially women worship it daily by reciting mantras and offering flowers, holy water, *ghi*-lamps and sweets to it. *Tulosi* symbolises *Vrindavana* (cosmos), and by worshipping it daily the relationship between cosmos and home is renewed. *Tulosi* is worshipped especially in *Kartika*-month (15 October-15 November), when *tulosi* gets married with Krishna and Vishnu. The worshippers of Krishna wear *tulosi*-bracelets. Hindus put to a dead person's mouth *tulosi*-leaves and holy Ganges-river water to ensure a better life. *Tulosi* is used in *adivasi*, ayurvedic and allopathic medicines (fever, cough, malaria, tuberculosis). Because it is desinfective, it is used to clean water, preserve food, and prevent insects (Gupta 1980: 42-5). The Santal said that if after a meal a person does not wash their hands and then touches a *tulosi*, the tree will die. *Dhala tulasi* (white) is *Ocimum basilicum, Linn.* and sweet basil in English.

[256] Bamboos are tall, perennial, arborescent grasses, with woody stems, called culms. More than 100 species of them are found in the Indian forests, the thorny *Bambusa arundinacea*, grows in Orissa. Bamboos are the poor man's timber, used in house and shed construction, as rafters, scaffolding, roofing, walling, flooring, fencing, to make fishing and hunting traps, for matting and basketry. Small pins of bamboo are utilised for sewing bowls and plates of leaves. Tender shoots are eaten. Bamboo has a comparatively long fibre suitable for making paper.

E. Tubers

1.	*kosa-alu*; *kukuri* (H)	*Dioscorea anguina, Roxb.*
2.	*pani-alu*	*Dioscorea oppositifolia, L.*
3.	*kunda-alu, korondi-alu*	*Dioscorea belophylla, Voight.*

F. Palms

1.	*betel, araca, gua*; betel nut palm (E)[257]	*Areca catechu, Linn.*
2.	*coconut palm*	*Cocos nucifera*
3.	*date palm*	*Phoenix sylvestries*
4.	*sago palm*	*Caryota urens*
5.	*tala*; palmyra palm (E)	*Borassus flabellifur*

G. The common species of social forestry plantations in Orissa:

Acacia auriculiformis
Acacia catechu (khair)
Cassia siamea (jacunda)
Cassia auriculata
Prosopsis juliflora
Anona squamosa
Tecoma stans
Gmelina
Eucalpotas or Eucalyptus (hybrid or Mysore gum)[258]
Casuarina equisetifolia
Dalbergia sissoo (plantation *sisoo*)

[257] The betel nut is the seed of the betel palm. It is used for tanning.

[258] *Eucalyptus* is a native of Australia. Tipu Sultan brought it to India in 1770, and has been planted large-scale since 1970s. It has 384 varieties, and for its opponents all of them lower the water table, deplete soil fertility, keep away wildlife, do not provide fodder, green mulch or shade, and by promoting the development of pests, it brings ecological disaster.

Appendix 7. Cultivated edible plants (also previously mentioned mango, jackfruit and cashew)

English	Oriya	Botanical name
1. aubergine or egg plant	*brinjal*	*Solanum melongena, L.*
2. banana	*kadali*	*Musa paradisica*
3. bean, field bean		*Vicia faba, L.*
4. black gram	*biri*	*Phaseolus mungo*
5. cabbage	*kobi*	*Brassica oleracea, Linn.* / Cauliflower (*phul-kobi*) is a variety.
6. chilli	*lanka*	*Solanum annum*
7. coriander	*dhania*	*Corriandrun sativum*
8. cucumber	*kaknai*	*Cucumis satrivus, L.*
9. garlic	*rasuna; lasun, lahasun(H)*	*Allinum sativum, Linn.*
10. ginger	*ada*	*Zingiber officinale*
11. gourd	*lal kurma (Hindi)*	*Cucurbita maxima, Duchesne;* snake gourd = *Trichosanthes anguina*
12. gram, Bengal gram, chickenpea	*buta; sola; bhut* (S)	*Cicer arientinum L.*
13. groundnut	*badam*	*Arachis hypogea*
14. horsegram (pulse)	*kolatha, kulthi, kultho*	*Dolichos biflorey*
15. lady's finger, okra	*kakharu* (O); *kusmanda* (Sanskrit)	*Abelmoschus esculentus (Linn.) Moench*
16. lemon	*lembu, bijapura*	*Citrus limon, Linn.*
17. lentil[259]	*mashoor*	*Lens esculenta, Moench*
18. linseed	*alsi; tisi* (H); *atasi* (Sanskrit)	*Linsus usitatissinum, Linn.*
19. maize	*maka, buta*	*Zea mays, Linn.*
20. (common) millet	*marha* (O); *gundli* (S)	*Panicum milaceum, L. China*
21. mung, green gram	*muga*	*Phaseolus aureus*
22. mustard	*sorisa, sorosha*	*Brassica junlea, Linn.*
23. onion	*piaja*	*Allium cepa*
24. paddy, rice[260]	*dhan*	*Oryza sativa, L.*
25. pea a) field pea; b) garden pea	*a) matar* (H); *batura* (K); b) *matah*	*a) Pisum arvense, L.; b) Pisum sativum, L.*
26. cowpea	*jhudanga*	*Vigna sinensis*
27. potato	*aloo*	*Solanuny tuberrosum*
28. pumpkin	*bhendi*	*Cucurbita pepo, L.*
29. radish		*Raphanus sativus*
30. ragi, rafi	*mandia*	*Eleusine coracana*, Gaertn.
31. sesame		*Sesamum indicum*
32. spiked millet	*bajri (Hindi)*	*Pennisetum typhoideum, Rich.*
33. sweet potato	*kanda (mula)*	*Ipomorea batatus, Lamk.*
34. til, sesamum	*tila*	*Sesanirum indicum*
35. turmeric	*haladi* (O); *sasan* (S)	*Laurus Cassia Willd./ Curcuna longa*
36. wheat	*gahama*	*Triticum aestivrum*

[259] Lentil or *daal* also refers to a kind of soup prepared from lentils. It is mixed with boiled rice and is common Indian food.
[260] The wild rice is *balunga* (O), *urihoro* (Santali); *bir-baba* ('forest-father', Kolho); *deodhan* (Hindi); and *Oridhana* (Bengali).

Appendix 8. Glossary of vernacular terms from Oriya to English (including some English terms)

acre	10 x 10 metres (2 *man* is 1.5 acre)
adi dharmi	or *sarna dharam*; those whose *dharma* is the original one; the *adivasis* who follow their own religion.
adivasi	Sanskrit for original dweller, original inhabitant, first settler (*adi* = first; beginning; of earliest times; *vasi* = dweller; resident of). Tribal groups, Scheduled Tribes (ST).
akhand sikar	*adivasi* ritual group hunting, also known as *akhand paradhi* (*akhand* = continuous; *shikar* = *paradhi* = hunting); a tribal hunting ritual
akhara	village dancing place in Santali
angawadi centre	a part-day kindergarten
arua chaula	sundried rice
babu	The British referred to Indian clerks as *babus*. Nowadays it means a white-collar worker, an educated gentleman. Villagers refer to subordinate officials as *babu*.
below poverty line	A family with an annual income of Rs. 11,000 or less with reference to the price level of 1991-92 is considered below the poverty line.
bidi	A thin cylinder tobacco rolled in a dried *kendu* leaf for smoking. Generally smoked.
biomass	is an energy source of plant or animal matter: forest and agricultural residues, manures, domestic and industrial wastes.
bit-laha	punishment of the wrong-doer, severe ostracism, outcasting to keep the moral values of the Santal society
bonga	*adivasi* god, deity, power, spirit, spirit of power. The *adivasis* 'make *bonga*' (worship *bonga*-spirits with sacrifices) to please spirits.
caste	For Hindus, it means only part of the society, consisting of different *varnas*, and for the Santal it means a complete society, the Santal.
charaka	a wheel used to prepare *sabai* rope
chasi, raiyat, ryot	peasant, cultivator
chullah	a cooking stove
Collector	The chief official in charge of the revenue administration of a district.
cot	A bed made from wooden frames and *sabai* grass rope net.
crore	10,000,000
dalit	Scheduled Caste (SC), *achhuan* (untouchable), and Mahatma Gandhi called them *Harijan* (hari = *bhagawan* = god (Vishnu); *jan* = people; creatures of God).
dantoon	toothbrush sticks of *sal* and neem
desi	indigeneous varieties of seeds and livestock. Hybrid or high-yielding varieties are non-indigenous, and part of the 'Green Revolution'.
dharma	A Sanskrit word with many meanings, including religion and the duty that one is born to perform. *Dharma* is code of conduct (importance of duty and right conduct) as well as the principle of proper supernatural order. The Brahmins are the bearers of *dharma,* or universal order, values and norms.
dhenki	a large wooden mortar, used to separate the cover of the paddy
diku	a non-*adivasi*. It is a pan-Jharkhandi word and applies to those who have a sense of superiority and those who dominate and exploit the *adivasi*, such as money lenders.
encroachment	The creation of homestead or agricultural (*sabai* cultivation) land out of forest land without a licence.
gachha	a trunk with life, a living tree
gochar	grazing land
handia	fermented rice beer; *rosi* is filtered *handia*
haat, hat	village market
hectare(s) = ha	a hectare equals 2.47 acres; 100 x 100 metres
hor	*adivasi*; people; human beings; path, way. The Santal refer to themselves as *hor,* us, the people
Hor	a Santal

household — each family unit with a separate kitchen is considered a 'household'

Indira Awaas Yojona — IAY is a central government program to house rural people below poverty line since 1985.

jaleni-wala — firewood collector (for sale)

jan — witchfinder in Santal community. *Jans* are liable to prisonment, since their activities are against the Indian criminal law.

jana, janata — people

jati — origin; classes of living species; *varna*; *gotra* (lineage, clan)

jhahira — sacred grove; place of worship consisting of trees that represent god/desses; *jagarthan* in Santali; *sarna* in Mundari

Jharkhand — The official understanding of the word Jharkhand is the 'land of forests' and 'forest area' (*jhar* = forest; *khand* = area), but for some *junglewala* it derives from *kand* (arrow in Santali). The Jharkhand movement is an ethno-regional movement in Chotanagpur region demanding self-rule.

juhar — greeting with hands

junglee, junglia, junglewala forest dwellers

karatia — sawyer

katha — a tree or trunk without life; wood, a log; notebook, book

kharif — the monsoon season (June-November)

kobiraj — herbalist, herbal healer; *chermule* doctor ('root-doctor')

kuni — a spirit healer, who often use herbs also; medicine-man; called *ojha* in Santali

lakh — 100, 000

lakhraj — revenue-free land, a rent free landholding

Lok Sabha — lower house of the Parliament

lungi — a piece of cloth wrapped around the waist, and which covers legs. Worn by men.

mahali — basket-makers

mahajan — money-lender

malik — master, owner

manjhi, pradhan — headman

mantra — a particular combination of words which when recited are supposed to have a powerful magical effect, energising and empowering the person who chants them. Vedic *mantras* are a kind of sound form of the deity it embodies.

Maranburu — a Santal god of community and nature

mistri — carver

mulia (male) *muliani* (female) daily labourer

mudi, mudhi, muri — parched rice, puffed rice, after boiling rice, rice is cooked like popcorn

myrabolan — fruits of *amla, bahada* and *harida* are used in *adivasi* and ayurvedic medicines.

nishtar — customary rights of villagers to gather forest produce free of charge in government forests, usually on condition that the produce were for their own use and not for sale.

NTFP — Non-Timber Forest Produce (NTFP), Non-Wood Forest Produce (NWFP) or Minor Forest Produce (MFP) refer to flora and fauna of the forest excluding timber.

ojha — shaman cum medicine-man in Santali, *kuni* in Oriya

pakhal — watered rice

panchayat raj — administration by *panchayats;* the Panchayat system of government refers to the three tier structure of local governing bodies from village to district level; *gram* (village), *samati* (block), *zilla* (district).

patti-wala — plank makers, transporters of sawn wood. Sawn wood is called *patta* if it is 1.5 inch thick and *patti* if it is 3-inch.

puja — rite of offering, ritual meal, religious worship; offering of flowers

quintal — a unit of measurement: 1 quintal = 100 kilograms.

rabi — spring harvest

Raja parva	a festival of the earth and agriculture. Mother earth's yearly menstruating period (15.6.) coincides with the incoming of the rainy season, just before planting paddy, and marks fertility of the earth.
ranu	liquor making ingredients, ferment
roti	non-leavened bread
rupee = Rs.	Rupee is the primary monetary unit of Indian currency, and paise (p = paise, hundredths of a rupee) is the lowest form of Indian currency. During 1997, value approximately Rs 35 = 1 US dollar.
Sadgup, Sadgop	general caste
sahib	The Indians used to address the British with this term. Nowadays it is used as a synonym for the boss (of any race). The superior officials are called *sahibs*, and subordinate officials *babus*.
sari	A five metre length of material which Indian women tie around the waist, and drape around their bodies.
sarkar	state; government; those in power
sasan	bone burial ground, graveyard
sarpanch	head of a *gram panchayat; naib sarpanch* (*naib* = debuty)
Scheduled Caste/Tribe	The Government of India uses the term 'Scheduled Caste' (SC) to refer to caste groups ranked low in the social hierarchy, also known as *dalit* or *harijan,* and 'Scheduled Tribe' (ST) to refer to members of *adivasi* communities, as part of the post independence Government Backward Caste and Tribe Commission for equal opportunity programs.
shifting cultivation	A method of cyclic cultivation, where cultivators cut the tree crop, burn it, and raise field crops for one or more years before moving on to another site and repeating the process. *Podu* or *jhum* cultivation.
shikar	'to hunt'; hunting
shikari	hunter; village-based hunters; hunting '*junglee*-bowmen'
surakhya	protection
tabi	amulet or talisman which are attached to a string and worn around arm, neck or hips to bring good luck or to prevent diseases. They are part of good luck or *tantrico* medicines (magical powers acquired through occult practices).
thakurani	goddess
tiffin	lunch, food
thengapalli	rotational community duty of forest protection, rotational patrolling
tussar	*Antheraea paphia*, silkworm, produces tussar silk.
vermillion, *sindur*	Married Hindu women wear vermillion (a red powder) in the parting of the hair. This is considered a sign of good fortune and widows do not wear it. In rituals vermillion powder is offered to spirits.
zilla parishad	district council; an assembly of elected members governing a district

Appendix 9. A seasonal calendar of diseases (with the Simlipal group)

Month	Ailment, disease, illness
January	cold, fever, cough
February	cold, fever, cough, headache
March	malaria[261], measles, smallpox
April	eye infection, cholera[262], diarrhoea, malaria, vomiting
May	eye infection, cholera, diarrhoea, dysentery, malaria, vomiting
June	cholera, diarrhoea, dysentery, malaria
July	all types of *jhada* (stomach problems), cholera, malaria
August	cholera, jaundice, malaria
September	half headache
October	half headache
November	half headache
December	cough, cold, coldfever, cough, headache, runny nose, skin diseases (too cold for bathing and washing clothes properly)

[261] Malaria is common from March to August, and the peak period of malaria is during the rainy season in June-July. Before the 1950s national malaria program foreigners were not usually allowed in forests. Malaria used to be less in Simlipal, but currently rampant, and every year villagers and foresters suffer from it (Mahapatra 1986:8). *Gangasiuli* seed is used to prevent and cure malaria, and the Simlipal group said that one seed is equal to chloroquin tablet. It is commonly used, like aspirin in western homes. *Chireita* seed is used to prevent malaria.

[262] Cholera is common from April to August, and the peak period of cholera is in June-July.

Appendix 10. Forest and population statistics

It is difficult to make a historical study of the forest area because definitions of forest types and boundaries, the state of boundaries and areas change. The first demarcations were made in 1904-05, but the boundary lines were haphazardly maintained or sometimes forgotten (Das 1981: 23). The first Topographical Survey of India maps were made between 1925 and 1928 (Jee 1957: introduction, 175; Bakhla 1996: 25-7).

There are several records on forest cover: the Forest Department records, revenue records and satellite estimates. These records do not match, and the extent of deforestation is debated. The Indian Government treats reforestation and commercial tree-plantation areas as forests, and claims a more constant forest cover, whereas the FAO estimates a yearly loss of 3.37 million hectares in India, and claims that most forests are 'degraded' (Karlsson 1997: 19-20.)

In Orissa between 1972 and 1975, the extent of dense forests with a crown density of 40% was estimated by satellite imaging at 37,320 square kilometres, and in 1991 17,349 square kilometres (State of Orissa's Environment 1994: 30).

Year	Government recorded forest cover (sq. km)	Source	Actual forest cover (sq. km)	Source
1972-75	67,131	Bureau of economics statistics, Orissa	48,383	NRSA Landsat Data
1980-82	59,963	Chief Conservator of Forests, Orissa	34,425	-" -
1986-87	55,785	- " -	53,163 (81-83 imagery)	Forest Report, Government of India
1987-88	55,785	- " -	47,137 (86-87 imagery)	Forestry in Orissa
1991-93	56,142	Economic Survey 1993-94	47,205 (1991 imagery)	Forest Survey of India, Government of India

Table of official forest areas (State of Orissa's Environment 1994: 30)

District	Geographical area 1991	Reserved Forest	Demarcated Protect-ed Forest	Undemarcated Protected Forest	Other (unclassified)	Total in square kilometres	Percentage to total
1. Balasore	6,311	204.22	42.70	11.02	0.19	258.13	4.1
2. Bolangir	8,913	1,316.35	30.50	90.00	0.16	1,437.01	16.1
3. Cuttack	11,142	497.81	702.14	496.56	0.59	1,717.10	15.4
4. Dhenkanal	10,827	2,865.90	308.18	2,167.10	1.31	5,342.49	49.3
5. Ganjam	12,531	1,886.04	2,578.94	2,566.91	0.99	7,032.88	56.1
6. Kalahandi	11,772	1,448.13	2,527.86	1,676.62	0.98	5,653.59	48.0
7.	8,303	1,833.02	648.41	12.68	0.24	2,494.35	30.0

Keonjhar							
8. Koraput	26,961	2,144.16	4,281.51	2,440.29	0.83	8,866.79	32.9
9. Mayurbanj	10,418	4,219.53	371.52	663.47	2.14	5,256.66	50.5
10. Phulbani	11,119	3,025.20	1,875.13	747.76	3.01	5,651.10	50.8
11. Puri	10,182	1,609.97	607.30	1,054.47	1.53	3,283.27	32.2
12. Sambalpur	17,516	3,384.62	1,215.82	1,598.45	2.24	6,201.13	35.4
13. Sundagarh	9,712	2,652.39	903.32	431.64	1.72	3,989.07	41.1
Orissa	155,707	27,087.34	16,113.33	13,966.97	15.93	57,183.57	36.7

Table of districtwise (undivided) classification of forest area in Orissa, 1993-94 (provisional) area in square kilometres (Principal Chief Conservator of Forests; Annexure - 5.1. Economic Survey 1995-96. 1996. GOO: A-25.)

Area	**land area in sq. km**	**forest area in sq. km**	**% to geographical area**	**population (1991 census)**	**per capita land area (in ha.)[263]**	**per capita forest area (in ha.)**	**Density of population per sq. km**
Mayurbhanj	10,418	5,256.66	50.46	1,848,580[264]	0.553	0.279	181
Orissa	155,707	5,718,357	36.73	31,659,736[265]	0.492	0.181	203

Table of distribution of forest area vis-a vis geographical area/population / % of forest area/ per capita forest area (District Statistical Hand Book 1995, 1997.)

Mayurbhanj District (10,418 square kilometres) forms 7% of the total Orissa State area and 6% (1,787,952) of the state's population. According to 1991 census, there are 45 tribes (58%) inhabiting in the district, and the Santal, the Kolho, and the Bhumijo together form 38% of the total population (18,84,580). 7% are *dalits* (SC). Sex ration is 979 women to 1,000 men. Population growth rate (1981-91) was 19% . The average literacy rate in the district is 31%; in rural areas 29% and in urban areas 63%. Total literates 578,233 (a) male 396,803 (b) female 181,430; rural literates 505,365 (a) male 353,056 (b) female 152,309; urban literates 72,868 (a) male 43,747 (b) female 29,121.

Area	**Reserve forest**	**Demarcated protected forest**	**Undemarcated protected forest**	**Unclassified forest**	**Total in square kilometres**
Mayurbhanj 1.4.1981	3,390.72	337.51	929.38	2.46	4,660.07
Mayurbhanj	4,219.53	371.52	663.47	2.14	5,256.66

[263] 87% of the population live in rural areas in Orissa. The *per capita* availability of cultivated land has decreased due to population growth from 0.39 hectares in 1950-51 to 0.21 hectare in 1995-96 (Economic survey, 1996-97, GOO). In Mayurbhanj land-holding patterns are: a) 1 hectare & < =2 hectares 91,555; b) <=1 hectare 82,894, c) >2 hectare & <=4 hectares 64,896, and d) > 4 hectares 50,989.

[264] a) General: In 1995 Mayurbhanj had 26 blocks, 316 *Gram panchayats*, 351,008 residential houses, and 363,372 households. b) Gender: male 952,183, female 932,397; Scheduled Castes 131,765; Scheduled Tribes 1,090,626 (58%); c) The main occupational categories are marginal farmers 79,599, farmers 60,085, agricultural labourers 48,825, small farmers 42,993, rural artisan 8,279.

[265] Rural population 27,424,753; urban population 4,234,983; male 16,064,146; female 15,595,590; Scheduled Castes 5,129,314; Scheduled Tribes 7,032,214.

1.4.1990					
State 1.4.1981	24,986.58	17,729.40	17,232.19	15.13	59,963.30
State 1.4.1990	27,087.34 (47.37%)	16,113.33 (28.18%)	13,966.97 (24.42%)	15.93 (0.03%)	57,183.57

Table of legal status of forest area in Mayurbhanj and Orissa (District Statistical Hand Book 1995: 12,19).[266]

Division	**Reserved forest**	**Demarcated protected forest**	**Undemarcated protected forest**	**Unclassified forest**	**Total** in square kilometres
Baripada	894.38	122.54	624.44	0.53	1,641.89
Karanjia	1,610.23	225.50	353.34	1.45	2,190.52
Simlipal Tiger Reserve, Baripada	845.70	..	..	0.3	846.00
Total	3,350.31	348.04	977.78	2.28	4,678.41

Table of divisionwise classification of forest area by legal status in Mayurbhanj District (1 April 1996).

[266] Reserved forest denotes Category 1 or optimum protection extended to the forest by the government. The forest declared to be reserved by the State Government (under sec. 20 of the Indian Forest Act 1927) over which the Government has proprietary rights. Protected forest denotes Category 2, in terms of official protection extended to the forest. Demarcated Protected Forests are certain specified reservations over trees or prohibitions on quarrying, grazing or removal of any forest produce. Forest growth on Undemarcated Protected Forests is under the Management of the Forest Department while the land is under management of the Revenue Department.

Appendix 11. The number of FPCs and VSSs in Orissa and Mayurbhanj

The Forest Department treats FPCs as non-recognised committees, and VSSs as recognised committees. Orissa is argued to have more FPCs (8,000-12,000) than West Bengal (5,000), but many of them are non-functional. In West Bengal villagers of an FPC do not protect more than 100 hectares, but in Orissa few protect more than 600 hectares. According to Mohanty (1996: 51), Additional Secretary, the Forest and Environment Department, Government of Orissa, there are over 10,000 Village Forest Committees managing social forestry plantations, 6,000 FPCs constituted by the District Forest Officials since 1988, and 3,000 self-initiated community groups protecting forest in Orissa. After the Government JFM Resolution (July 1993), 1,050 VSSs were constituted covering 70,350 hectares of degraded forests. There are 44 microplans in 11 forest divisions, some funded by the World Food Programme. There is a budget provision of Rs. 70,000,000 to promote JFM (for 50 micro-plans). However, Mohanty argues that instead of quantity focus, there should be quality focus.

State level organisations have been recently been organised in Orissa. In 1998 the State Forest and Environment Federation was organised including 11 districts of Orissa, and the secretary of the BJFPC is one of the members. Another state level organisation is the Orissa Jungle *Manch*, which includes several FPCs and NGOs. Its working is ad hoc as the process of getting elected and selected representatives is still going on in the districts (letter from Das; and email from Mishra, Autumn, 1999).

In 1994 in Mayurbhanj, excluding the Simlipal Biosphere Reserve, the forest area was 33,946 hectares: 9,996 hectares under regeneration, 10,337 degraded, and 13,613 hectares under plantation. Up to 1994 208 forest committees protected 23,977 hectares of forest: 149 FPCs protected 15,396 hectares, 61 VSSs protected 8,681 hectares (Mishra 1994). The Baripada Forest Division consists of Mayurbhanj (33%; 0.146 hectare per person), Balasore (4%; 0.009 hectare per person) and Bhadrak (4%) districts. The total area is 10,766 square kilometres out of which 18% (1,905 square kilometres) is forest (JFM workshop, 1994).

The Baripada Forest Division consists of 11 ranges: Bangripusi (created in 1997), Betnoti, Chandbali, Chandipur, Dukura, Jaleswar, Jamsol (*sabai*), Kaptipada, Neoli, Pithabata, and Udala range. There were two lists of the FPCs in the Baripada Forest Division. According to one list there were 160 FPCs, and 135 of them were active, 23 inactive and two partly active.[267] The total area under protection was 20,481 hectares (excluding one area which was not clear in the list). The average area was 190 hectares ranging from 7 to 1,043 hectares. According to another list (8 March1997), there were 220 FPCs in Baripada division (19 active, 27 inactive and 174 not specified). The total area of forest protection was claimed to be 35,640 hectares. The average area of protection was 162 hectares ranging from 8 to 900 hectares. The legal status of the forest under protection in most FPCs was reserve forest.

[267] The number of FPCs in different ranges: Chandipur 3, Betnoti 40, Dukura 16, Deuli 20, Jamsol 2, Kaptipada 11, Nilgiri 17 (in Balasore district), and Udala 20.

According to the Baripada Forest Division, there were 108 VSSs (with executive committees) in 1997.[268] 75 VSSs (69%) have signed an MOU. Microplans are not prepared in 96% (104). According to their book-keeping, 56 were 'converted from' FPCs and 52 were newly created. The total area under VSS activities is argued to be 12,200 hectares. 91% (98) of the VSSs protect reserved forest and the rest protect forests of miscellaneous legal status.

According to the Karanjia Forest Division, there were 19 VSSs in September 1997, and the first was formed 4 January 1996. Three MOU had been signed, and a microplan was under preparation in four VSSs. The total area under protection in Karanjia division was 1,544 hectares. The average area was 81 hectares ranging from 40 to 200 hectares. The legal status of the forest under protection was the following: 63% (12) reserve forests, four demarcated protected forest, one protected reserve forest and two protected forests.

[268] According to another list there are 102 VSSs in the following ranges: Chandipur 1, Betnoti 68, Dukura 6, Deuli 6, Kaptipada 4, and Nilgiri 17.

Appendix 12. Santal expressions, riddles and invocations

> After dividing the clans, *Pilcu Haram* and *Pilcu Budhi* questioned their daughters and sons:
> 'Who are you?'
> 'We are grown up, we can carry pots of cold water on our heads': the daughters said.
> 'We are hard and strong, ploughs made from the *rot* tree and sticks made from the *hesel*': the sons said. (Culshaw 1949: 68; *rot* = *Ougeinia dalbergioides*, Benth.; *hesel* = *Anogeissus latifolia*, Wall.)

A parent may refer to the sex of children (not at the time of birth): 'I have three *iri* and three *erba*', which signifies three boys and three girls. *Iri* is a cultivated millet (*Panicum crusgalli, L.*) and *erba* is a cultivated grain (*Setaria italica, Kunth*; Culshaw 1949: 120).

The Santali-speakers refer to people sleeping together as 'they went off to eat figs', 'she put a flower-bud in her hair', 'the girls are spreading out their tail feathers', 'she swept his courtyard', 'the boy took her to drink water', 'he is always stealing skin' and 'the girl has been smelt'. Seduction is implied by the phrases of 'climbing a fig tree', 'striking with a flute', and 'shooting an arrow'. 'Every leopard must have its goat' refers to the need of men for women. 'Tame snakes still have fangs' means that married women can still do mischief. 'A cow with a calf always kicks' refers to a young mother, who does not take a lover (Archer 1974: 39-40, 66).

After an ordinary wedding, the Santali-speakers say 'the calf has been tied'. If the husband is rich, they remark 'the girl has perched on a thick branch', 'she has found a shelter under a big tree' and 'she has got a creeper's pole to support her'. In Santali a husband is known as 'the umbrella shadow', 'the one who stirs the curry', 'the woman's bridle' and 'the *jaher* tree'. A wife is 'the old house site', 'the ruling *bonga*', 'the basket *bonga*' and 'the yoke'. Children are described as 'the ears of paddy', 'the paddy seedlings','the young calves', 'the young parrots', 'the yolks of eggs' and 'the little pumpkin fiddles' (Archer 1974: 40-1, 48-9).

Some riddles refer to the tensions between in-laws.

A hundred fathers-in-laws with only one belly. — An onion.
Fat pythons never stir. — A lazy daughter-in-law never works (Archer 1974: 46, 49).

According to Santali riddles a flute is 'A bamboo with seven eyes', 'The boy who cries when he is kissed', and 'The boy who weeps when he is taken to the end of the village'. A fiddle is 'The man who speaks when his belly is tickled'. A drum is sometimes 'a gay girl' and sometimes 'a tortoise egg' (Archer 1974: 44-7, 41).

Several riddles refer to plants:

Silver the branch, little the fruit, big the tree. — A *pipal* tree.
The bird with a tail on both its sides. — A leaf cup (Archer 1974: 43-5).

After a meal the Santal guests get up and 'convert their bodies from baskets on the ground to palmyra palms'. If they have eaten well, they have 'loaded the carts' and 'covered their kettle drums', but if they have not, they complain of getting only 'a few ants' drums' (Archer 1974: 39).

Two *bakhten* (ritual invocation): one said during *Erok bonga*, another one during *Baha bonga*.

Erok Sim Bonga

Our obeisance to you, Mother *Jaher Era*.
On the occasion of the *Erok* festival we offer to you
Young fowls, and freshly husked rice.
Accept it in pleasure.

We pray to you:
For every seed we sow let there be twelve
And let no disease attack them.

If they attack, please subdue them.
Do not allow weeds and grass to grow among our crops.
Do not allow diseases and misfortune to befall our village.
Bring us the rain-bearing clouds in plenty.
Bring them in time.

Let the earth be green with our crops.
Let there be no hindrance to our movements.
Let there prevail among us
The spirit of mutual love and goodwill (Mahapatra 1992: 71).

Baha Bonga

Salutation to you, Mother *Jaher Era*.
On the occasion of the *Baha* festival we offer you
Young fowls, new flowers, and freshly husked rice.
We beg of you to accept them with love and pleasure.
We prey to you;

We take these new flowers and fruits
Let there be no disease and sickness from them.
Please make the animals appear before us.
When our animals, the goats, the cows, the cattle are grazing
Let them not be devoured by wild animals,
Let the tigers leave them alone
And let them return home safe.
Let not disease and pestilence enter our village.
Bring us the rain-bearing clouds in time and with plenty of
Rains let the earth be fresh and green.
And by quickening the mind and the body
Bless everything with new life (Mahapatra 1992: 71-2).

Appendix 13. A note on reincarnation

Mauss (1938) draws a distinction between the concept of the person (its cultural perception) which is usually found in *adivasi* societies (*personnage*: a representation of an ancestral line; a stock of names and souls recycled through the generations). The Santal recognise at least two 'souls': one contains the personality of the deceased, and becomes an anonymous ancestor, and the other has the animating life-spirit, 'soul substance' that is reincarnated (Parkin 1992: 203).

The Santal conceive in the *hormo* (body) only the skeleton as immortal. The *maran ji* (big breath; principle of life, non-literal translation) which gives skeleton life and dwells in the bones of the skull. (*Hurin*) *ji* (little breath) dwells in the stomach and shelters the *roa*, the 'soft soul', and enters a plant or animal body after death. *Umul* (shade) leaves the body in sleep. The spirits of ancestors, (*agil*) *hapram*, turn eventually into the *bonga*, or *bhut bonga* if they died inauspiciously (Carrin-Bouez 1986: 67, 89, 170; Parkin 1992: 203-4).

There are several theories of reincarnation. Some think that the deceased person is born into the same family in the third generation. The practice of name-giving supports this idea: children are named after the grandparents who are reborn in them. Others that the *hurin ji* is involved with the regeneration of the species, and the *roa* may in reincarnated in rice plants (Gautam 1977: 150; Bouez 1985: 72; Parkin 1992: 204). Naming and reincarnation express the alternation of generations among the Santal. The equivalence of alternate generations expresses a single idea with a number of possible expressions, as in kinship terminologies and in the transmission of the name and soul substance of a grandparent in his or her same-sex grandchild.

> These generations perpetually revolve around and replace one another, grandchildren being (re)born as grandparents die – a cyclical representation instead of the unending ladder of generations familiar to us in the West (Parkin 1992: 216-17).

Obeyesekere (1980: 156), contrary to Culshaw (1949: 159-60), argues that the doctrines of rebirth and the transmigration of souls had an *adivasi* origin (Parkin 1992: 221). Later *karma* in Hindu reincarnation, the theory of cyclical rebirths that depend on deeds performed in previous lives, was created. The good or evil deeds performed during a lifetime are rewarded or punished in the next birth. Human suffering or poverty is explained in terms of the punishment meted out for the misdeeds of a previous birth. For *adivasis*, it is the manner of one's death (ritual imperfection or incompleteness), not the worth of one's life, that is the qualification for rebirth. For the *adivasis*, reincarnation is an object of desire, whereas Hindus ultimate wish is to reach *moksha* or *mukti* (liberation) from the endless cycle of rebirths as the goal leading to *nirvana* (Parkin 1992: 222). Heaven is a temporary abode, and most are reborn.

Appendix 14. Household questionnaire

1. Name
2. Gender
3. Age
4. Religion
5. Caste or tribe
6. Identification in relation to household: guardian, wife, son, daughter, other
7. Birth: at home or in a hospital

1. General Information

8. Household members: number, sex and age of persons in household
9. Primary and secondary income-generating activities: cultivator, agricultural labour, NTFP, builder, outside village, other (types of work, seasons, month).
10. What is the traditional income generating occupation(s) of your family?
11. Residence and land ownership:

a. Since when has your family lived in this village?
b. Where did your wife come from? Where are your daughters married to?
c. What is your house made of (mud, forest produce, roof)? How many rooms? Who built your house? When was it built?
d. The amount of agricultural, household land owned:
e. Have you inherited or purchased any land? If yes, how much?

12. Water sources for household consumption

a. Where do you get your drinking water? Where do you wash yourself, utensils and clothes? tubewell, open well, pond, river, other
b. What kind of seasonal variation in water sources?

13. Household assets:

a. Agricultural equipment: plough, bullock cart, pump, other
b. Utensils: brass, silver, aluminium; furniture; jewellery; bicycle; radio, tape player, television; savings account; other
c. Have you or your household members taken any loans? If yes, from whom (person/institution)? How much, and what was the interest rate?

14. Education:

a. How many members of your household have been to school?
b. What level (primary, secondary, high school)?
c. Does it cost anything to go to school?
d. Why do/would you send your children to school?
e. What do you teach your children at home?

15. Health

a. Were you/your children vaccinated at birth? If yes, which vaccinations?
b. Which diseases occur most frequently? What seasonal variation is there?
c. Where do you/your family go for health care services?
d. Do you practice family planning?

16. Describe your day. What kind of seasonal variation is there in your daily routine?
17. Food

a. What and when do you eat (meal times)?
b. What kinds of seasonal variations are there in your diet?
c. What kind of food items do you buy for daily use? Where do you buy them?
d. How much do you spend on food per week/month?

18. What are the estimated expenditures of your household? rice, clothes, medicines, education, miscellaneous expenditure

II Livestock, fodder and grazing

19. Livestock: goat, cow, bullock, poultry
20. Housing (inside house, within, outside) and feeding (grazing, stall feeding) in different seasons, method of procuring (gathered, grown, bought)
21. Where do you graze and why? Who grazes?
22. What is 'good' fodder?
23. What are the most common diseases affecting domestic animals?

III. Agriculture and irrigation

24. What crops do you grow? rice (*desi*, hybrid), wheat, vegetables
25. Do you grow them for household or commercial use or both?
26. How long does your paddy last for household consumption?
27. How much paddy do you need per day?
28. How do you market your crops? Who buys, where sold?
29. What natural and commercial seeds, pesticides and fertilisers do you use? What quantities do you use?
30. a. Who harvests your crops: household members and/or *mulia(ni)* (daily hired labour)?
b. What wages do you pay for *mulia(ni)*?
31. Do you have rainfed land or other sources of irrigation (pond, canal, pump)?
Is it individual or group arrangement? What are the costs involved?
32. Do you have a kitchengarden? What do you grow there?

IV Worship and rituals

33. Are there any daily rituals or worship practices in your household? If yes, what are they and who performs them?
34. What are your seasonal rituals or worship?
35. Birth: What happens in your household (worship, ritual) after the birth of a girl or a boy?
36. Marriage: How do you choose a bride or a groom? What is a suitable age to marry? At what age did you marry?
37. Death: a. What happens in your household when someone dies?
b. What happens to wives after their husbands die, and vice versa?
38. How have any of the worship/rituals changed since your mother(-in-law) was young?

V Forest use and protection: general information, benefits, duties, and decision-making

39. What forest produce do you use (firewood, fodder, *sal* leaves, medicinal plants, mushrooms, timber)? Are they for household or commercial use?
a) Who collects firewood, and when? How far is it collected? How much time does the collection require? How much firewood does your household consume?
40. What kind of *chullah* do you have?
41. What is a good forest? What is a bad forest?
42. What are the constraints in maintaining a good forest?
43. What is good firewood?
44. Which species do you prefer to build with (house, housefencing)? Why?
45. What species do you use to make agricultural implements? Why?
46. Who owns the forest?
47. Who have rights to the forest and forest produce?
48. Have you taken part in *thengapalli*?
49. a. Is there an FPC in your village?
b. Have you taken part in the meetings? Are you or any member of your household a member of the FPC?
c. Who are the members? What do they do?
50. When and why did you start to protect forest?
51. What do you think about forest protection?
52. What do you think about the rules and regulations of the FPC? Do people obey them? What, if anything, would you change?
53. Since the FPC was introduced, what changes have taken place in your daily life?
54. Since the FPC was introduced, have there been vegetational changes in the forest?
55. What advantages and disadvantages has this household received from forest protection?
56. What does Budhikhamari mean to you?
57. What does the mobile group mean to you? What do they do? Have you ever seen them?

JFM and VSS

58. Do you know what JFM/VSS means? What does JFM/VSS mean to you personally?
59. What are the duties and responsibilities of the Forest Department/*panchayat*/villagers/VSS/a single household in JFM?
60. Why do you think FPCs/VSSs/JFM is successful in some villages and not in others?
61. How to make FPCs/VSSs/JFM more effective?
62. What, if anything, would you change in the Forest Department?
63. What are the advantages and disadvantages of having an FPC?
64. What are the advantages and disadvantages if an FPC is transformed into a VSS?

65. Are there differences between Forest Department-initiated, NGO-initiated, and self-initiated forest protection and management, for example, for vegetational status? If yes, why?
66. a. What kinds of knowledges, skills and attitudes foresters have?
b. What kinds of knowledges, skills and attitudes villagers have?
c. What can foresters and villagers learn from each other?

plantation, illegal activities, future

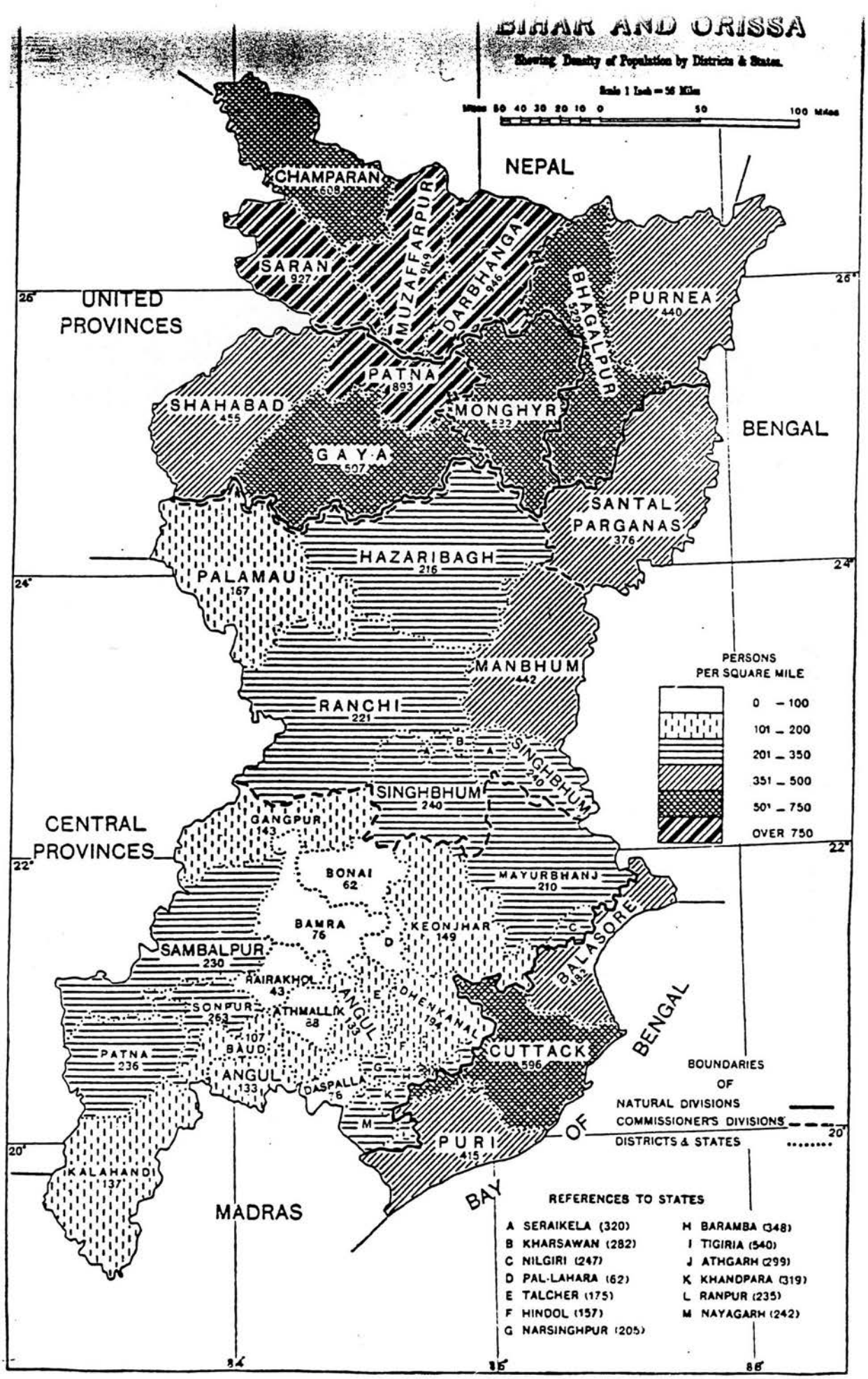
67. Are there differences between protecting a plantation or a 'natural' forest? Make a comparison.
68. What species should be planted according to your personal view? Why?
69. Who should decide what species are planted?
70. How do you see illegal activities from a historical perspective: Have illegal activities decreased or increased in volume? Have the forms of illegal activities changed in 20 years?
71. What are the current problems faced by your village and FPC in producing, processing and marketing forest produce?
72. What do you value the most in the forest?
73. What do you value the most in the village?
74. How do you see the future of forests in Mayurbhanj?
75. How do you see the future of your village?

VI Politics

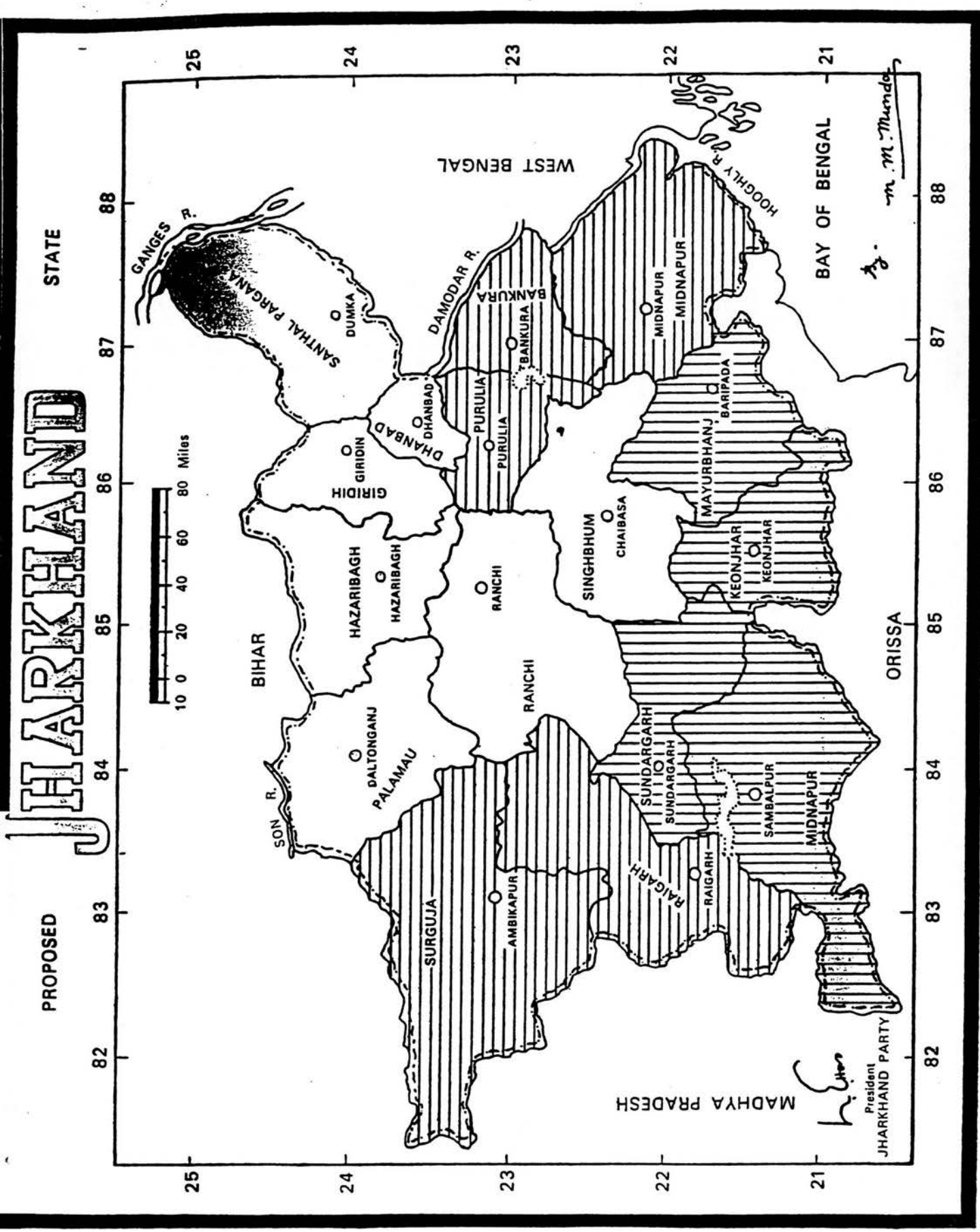
76. a. Who is the ward member of this village?
b. Have you/your household had interaction with the ward member?
77. Do you/ your household support any political party?
78. What have the Parties done for you, household, and village?
Are there any on-going development activities?
79. Are you/your household a member in any committee? If yes, which? What are your duties and responsibilities? If no, how do you find out what goes on in the meetings?
80. What are your problems?
81. What are your achievements?

VII Contact and exposure

82. Do you have self-help groups, for example to help to build a house?
83. Do you or your household belong to the hamlet or the village?
84. Has your household had any interaction with government officials (forest official, agricultural extension worker, village level worker)? If yes, in what context? How were your demands (if you made them) responded to?
85. What is a good forester?
86. Do you listen to the radio (when visiting neighbours, once a month, once a week, every day)?
87. Do you read newspapers (when visiting town, once a month, once a week, every day)?
88. Have you watched television? If yes, how frequently?
89. Have you been to the cinema? If yes, how frequently?
90. Any further points you would like to mention?

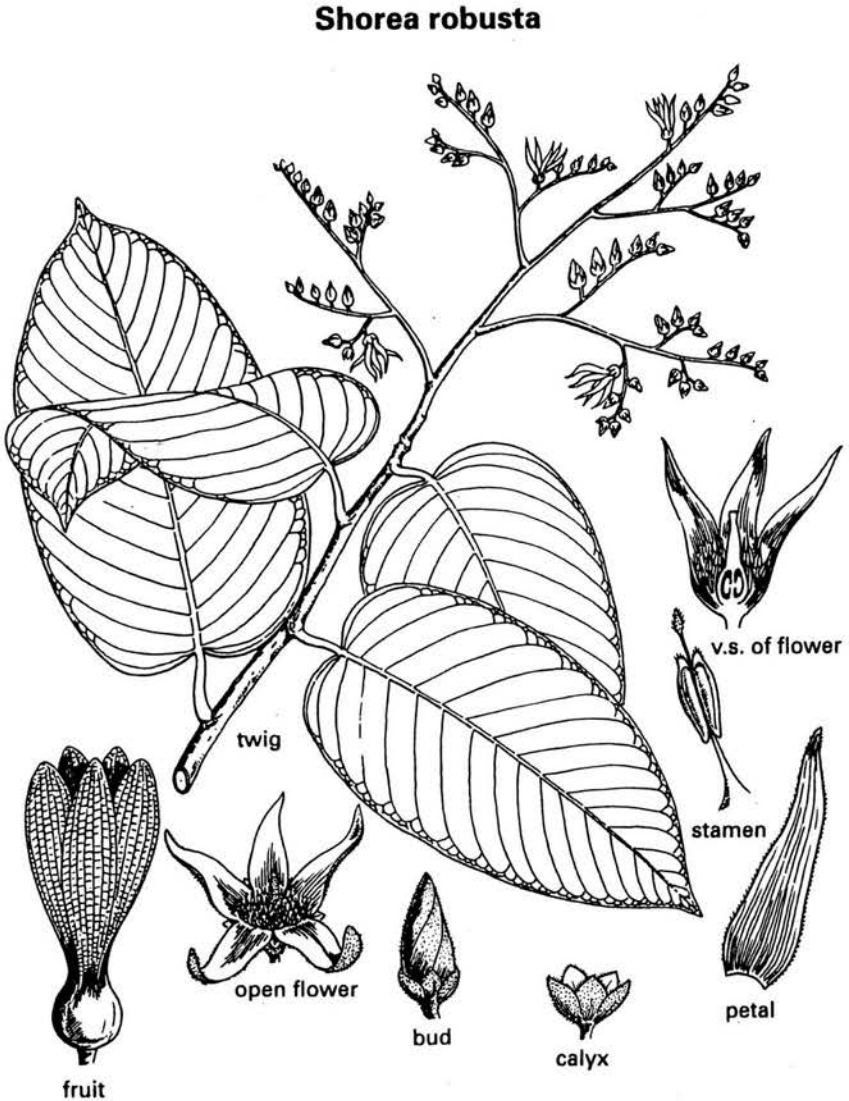


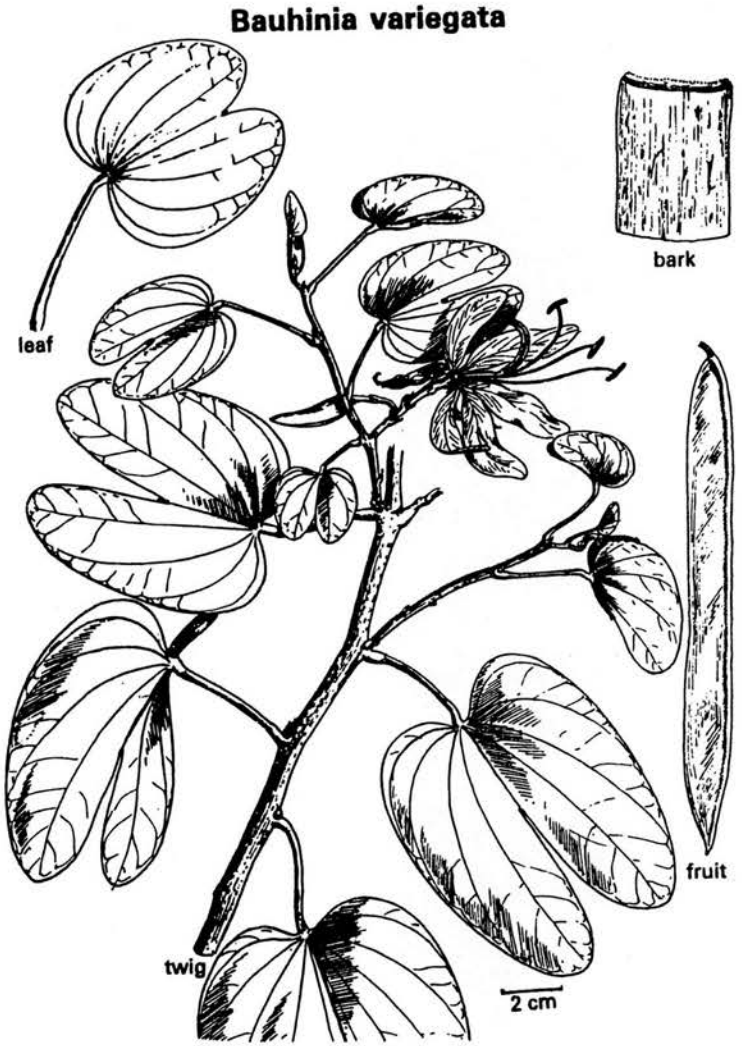
Appendix 15. Historical map of Orissa (map 9; a copy of Lacey, 1933).
Orissa was part of the Lower Provinces of Bengal and Assam until 1883. In 1912, at the time of repartition of Bengal, a new province of Bihar and Orissa was formed. In April 1936 Orissa was separated from Bihar (each became a separate province).



Appendix 16. Proposed map of the Jharkhand State (map 10; a copy of Singh 1982: xvii).
The area of Jharkhand activities comprises nearly 80,000 square kilometres in the north eastern part of peninsular India (Singh 1996: 81). The core Jharkhand area is the Bihar part of the Chotanagpur plateau with a total population of over 30 million of which nearly 40% are *adivasis* and 55% *sadans* (various artisan and service castes). The official understanding of the word Jharkhand is the 'forest area' (*jhar* = trees, undergrowth; *khand* = area). For some *adivasis*, it derives from *kand* or *sara* (arrow in Santali). This etymology is supported by the symbol of the Jharkhand, which is a bow and arrow. It is within this context that the Jharkhandis demand the right of assembly with bows and arrows, and they consider the *akhand sikar* and hunting as their customary rights.

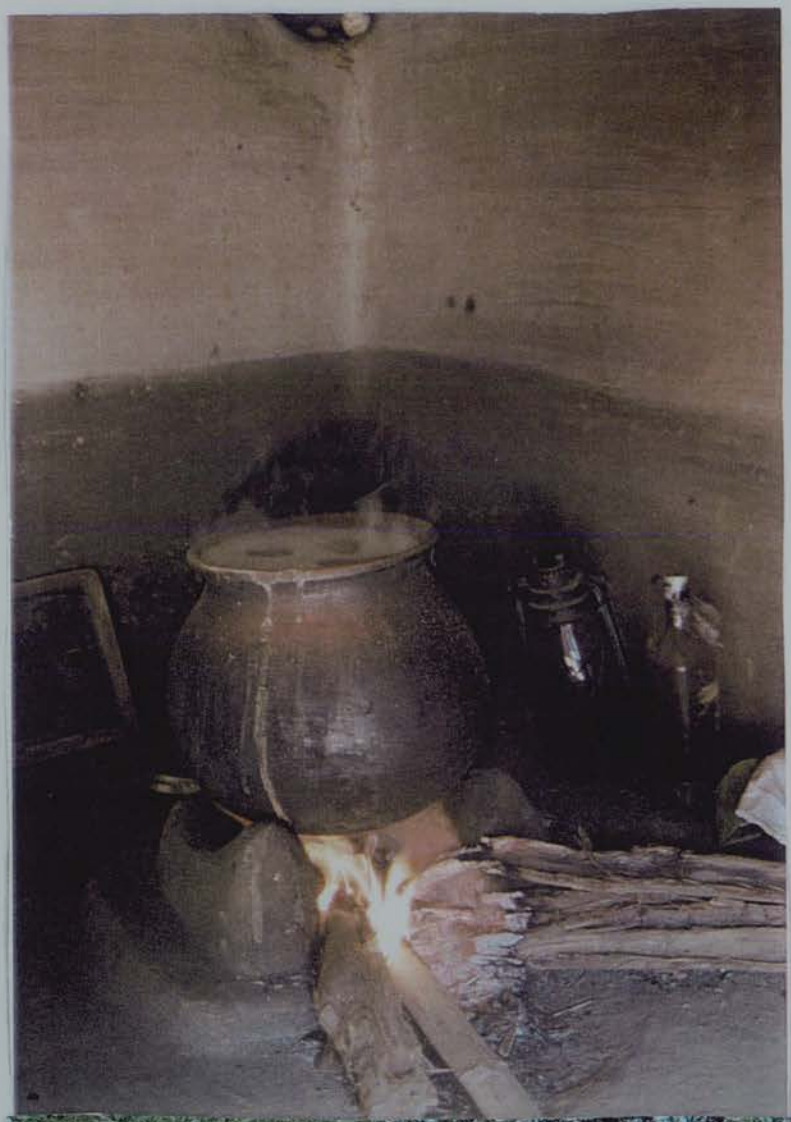
Appendix 17. Forest training material of the DIPS.
The DIPS is linked with the United Nations Development Program and provides printed material about the importance of forest protection with pictures that also illiterate persons understand.





Appendix 18. Botanical pictures of *sal* (vol. 5, p. 125) **and *siali*** (vol. 1, p. 231). (copies from the Indian Medicinal Plants, 1996).

Appendix 19. Photographs



Most households collect fuelwood and fodder from the forest.

A Baitha woman prepares bamboo strips, and her husband prepares the final produce: baskets, stainers and handfans that can be seen at the background. Bamboo is called 'the poor man's timber'.

A social forestry plantation in Burupal.

Adivasi men in the Budhikhamari area coming back from the protected forest with cycleloads of *sal* leaves.

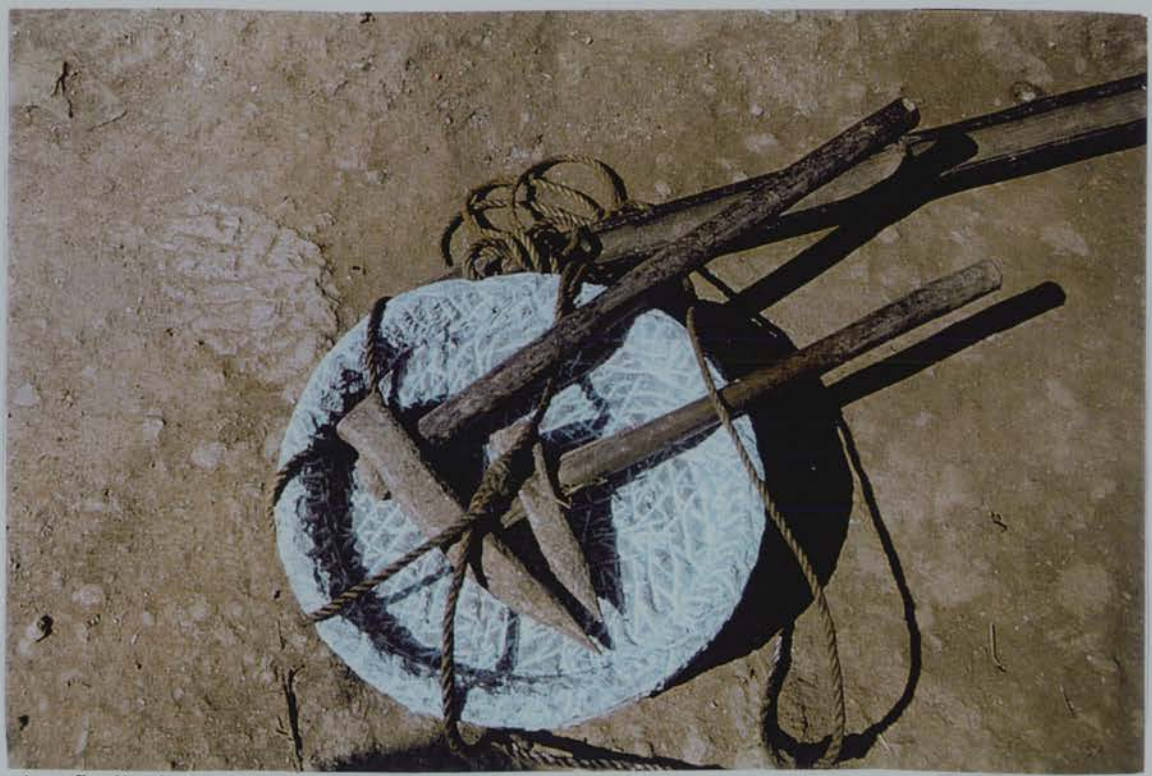
Fresh *sal* leaves are drying in the sun for a day.

An electric machine is used to prepare machine-made *sal* leaf plates and cups.

A wedding where guests enjoy their meals from machine-made *sal* leaf plates and cups.

A Ho woman beginning to prepare *sabai* rope by joining grass with grass and intertwining them with her hands.

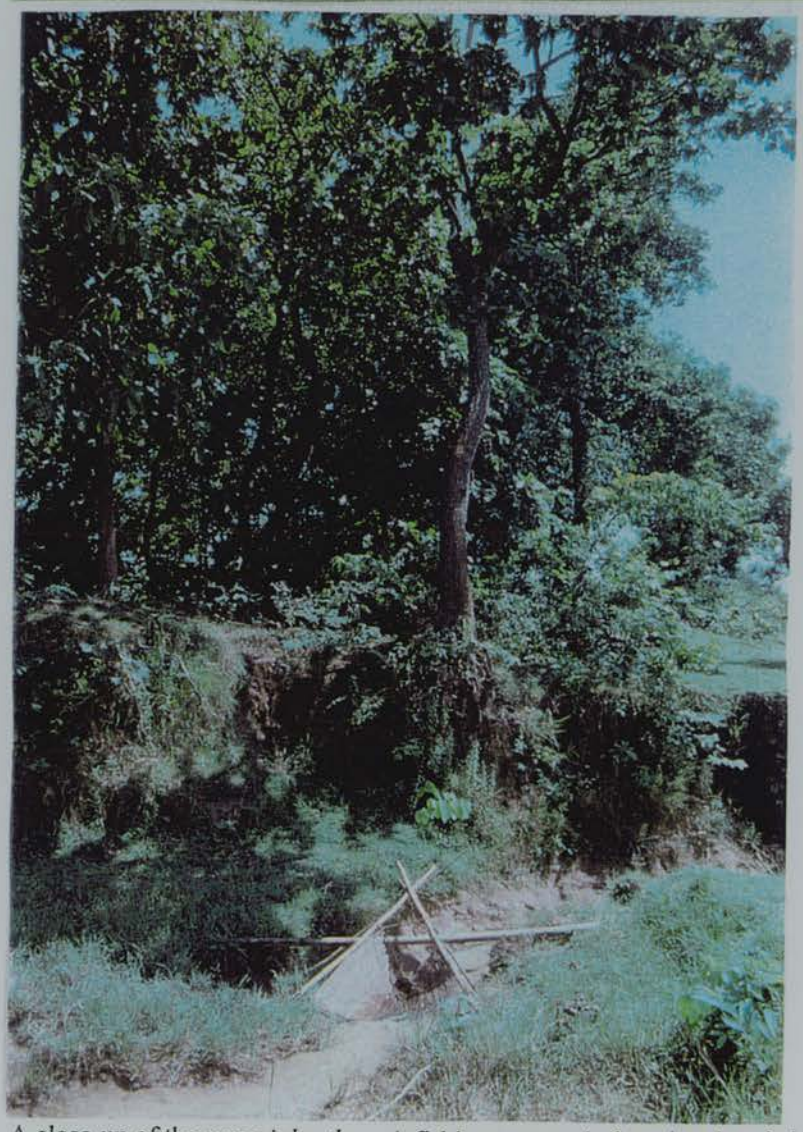
On the way to the Dantiamuha *haat* a son brings his households' *sabai* rope and a middleman has collected rope from several households.



A unfinalised stone plate and tools for rough carving in the stone quarry of Mopani.

Foresters who attended training in Tangi, Khurda District, organised by the Orissa Forest Department and the Indian Bio-Social Research and Development to encourage JFM.

The Santal *jaherthan* of Burupal.

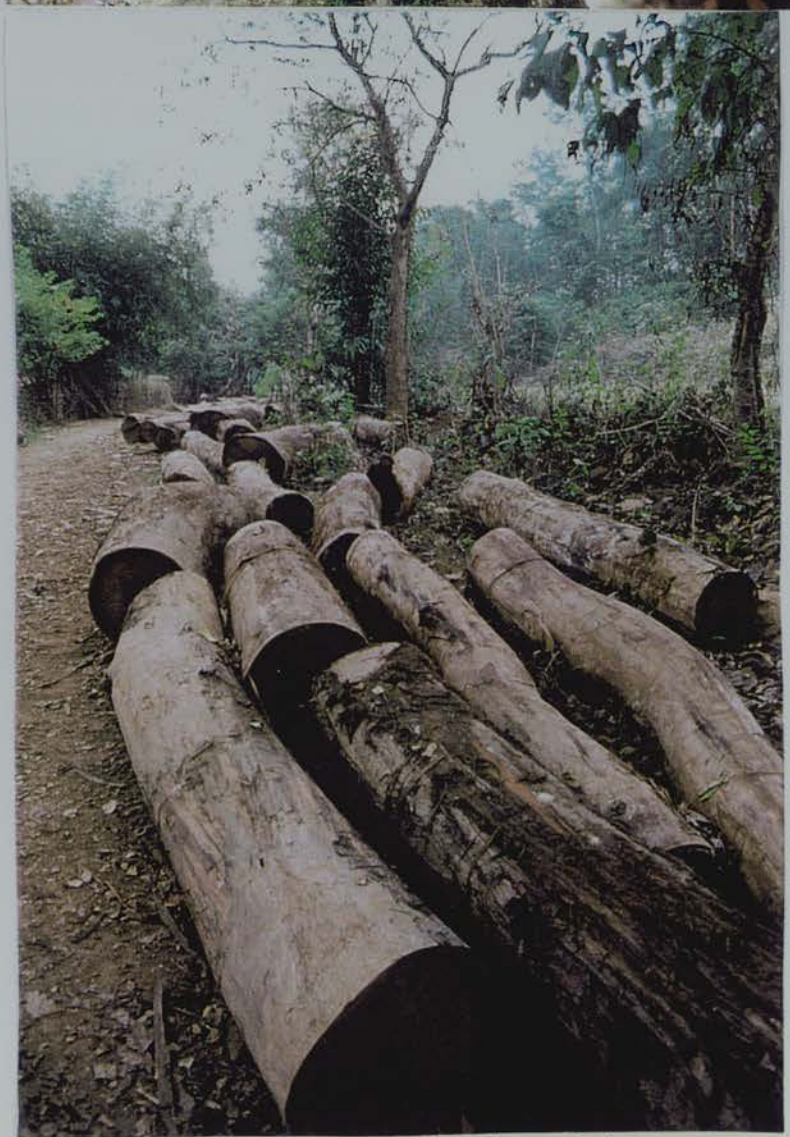


A close-up of the same *jaherthan*. A fishing trap made from bamboo is in the paddy field.

The *Ma mane bonga* in the same *jaherthan*. The *dehuri* is seeing if the chicken eats the offered *arua chaula* to know that the god is present, and ready to receive the neck of the chicken.

A *kobiraj* prepares medicines with a grinding stone.

Three *patti-wala* are sawing planks. They have marked the wood with black lines to get straight and the wanted thickness in the planks.



Big timber is lying on the ground waiting for professional smugglers with four-wheelers to transport it near Mopani.

Appendix 20. The Jharkhand movement as an imagined community, resistance to *Diku* forest practices, or as a transformative process?

Previously the narrative of Western cultural imperialism mostly denied the capacity of the 'margin' to act, to decide to collaborate, resist and remould outside influences. Clifford (1988) argues that there is a dual story to be told: one of western domination and loss of (marginal) culture, and another of resistance and cultural innovation (Comaroff and Comaroff 1992; Ortner 1995), for instance, of subaltern historians. Mamdani (1996: 183), writing about peasant movement in equatorial Africa, argues that 'modern tribalism' is a contradictory historical phenomenon that can be both oppressive and emacipatory. This applies to the Jharkhand movement as well. There are controversial interpretations of the Jharkhand movement of Chotanagpur area, and even from the meaning of the word Jharkhand.[269] The official understanding of the word Jharkhand is the 'land of forests' and 'forest area' (*jhar* = trees, undergrowth, *khand* = area in Oriya; *jhar* = jungle; portion, place in Sanskrit). But for some *junglewala*, it derives from *kand* or *sara* (arrow in Santali). This etymology is supported by the symbol of the Jharkhand, which is an arrow and a bow. It is within this context that the Jharkhandis demand the right of assembly with bows and arrows, and they consider *akhand sikar* and hunting as their customary rights. Jharkhand is also the name of a proposed state of Chotanagpur, and a political party. In this chapter I discuss three interpretations of the Jharkhand movement, as social imagination (Devalle 1992), as resistance to *Diku* forest practices, and as a transformative process, in order to understand to what extent the *junglewala*'s opposition to state forest practices, and their support of the Jharkhand movement are forms of resistance, and part of a political protest and cultural resistance to colonial and postcolonial domination, or reveal an alternative cosmovision model.

First, Devalle (1992: 153) sees 'Jharkhand as an imagined community', and a tribe as a myth. Devalle claims that

> it is erroneous to place Jharkhand's adivasi societies within the artificially-created framework of 'tribe'. The assumed egalitarianism, the 'primitive' subsistence economy with little or no external trade, the autonomy and isolation of such an ideal unit, are not to be found among Jharkhand's adivasis either now or in the past (1992: 75-6).

In several *adivasi* societies (Bhumijo, Munda, Santal) there was internal social differentiation, and some lineages became ruling ones, and a social division of labour partially replaced collective labour forms. Devalle (1992: 76) claims that the 'tribes' were a creation of the British colonial administration, and a 'trick of historical reversion' supports the idea that tribes exist nowadays in Jharkhand. Devalle (1992: 153-4) claims that the Jharkhandis conception of a Jharkhand community builds on a colonial legacy, but for the Jharkhandis, this tribal construct is a social reality.

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[269] Jaipal Singh borrowed the word Jharkhand, meaning 'forested land' from the vocabulary of the Muslim and Hindu rulers of Middle Ages. The local kings called the region by generic terms: the Bhanjas had Mayurbhanj and the Nagbansis had Chotanagpur (Mullick 1996 :5).

Since the end of the 18th century social contradictions encouraged economic oppositions that were perceived as ethnic and regional (Devalle 1992: 110). The other refers to the *Diku* in isolation and to a plural other of powerholders: landlords, money-lenders, colonial government and its representatives and allies, the 'alien-exploiter'. The Jharkhand, based on regional, ethnic and class solidarity, protested against this composite *they*. During this century, a mostly Western-educated urban leadership has emphasised urban groups and regionalism (Devalle 1992: 110).

Devalle (1992: 226-7) argues that the development of processes of dominance–subordination and of forces to resist and contest these processes have given rise in Jharkhand to two cultural formations: a culture of oppression and that of protest. A culture of oppression that stresses dominance–subordination and superiority–inferiority distinctions and violence of the master, and the links between a 'theatretical style of dominance', and the practice of coercion, violence and terror. Government paternalism expresses itself with the common use of 'backward', 'ignorant', 'simple', 'naive', primitive' and 'tribals'. Officials tend to conceive the *adivasis* as biologically and culturally inferior, as naive, wild, savage children, who do not conform to the dominant cultural values and lack in intelligence and achievements (Devalle 1992: 202).

A culture of protest is expressed in the cultural language through indigenous symbols or newly generated tropes, and rebellious attitudes and activities against the material and cultural hegemony of the powerful. Hegemony is constructed, maintained, reinforced and modified continuously by human agents and state agencies. The tactical space of the agents is limited, and their actions tend to include both collaboration and resistance. Selective cooperation is clear in the anti-carnivore campaigns. Villagers killed wolves, an enemy of livestock, but protected wild dogs who killed a number of wild herbivores (Rangarajan 1996: 204). For some, their culture of protest represents a social strategy for survival, self-assertion and social reproduction (Devalle 1992: 227). Devalle (1992: 151) describes Chotanagpur as the cradle of the reformist ethnicist movement.

Second, the Jharkhand movement represents resistance to *Diku* forest practices. As resistance the play of power in relationships and activities is emphasised. The resistance–domination binary deals with institutionalised form of power. Foucault (1980) emphasised the everyday forms of power, and Scott (1985) the everyday forms of resistance. The fear of the loss of the forest often takes some form of collective action. The Jharkhand movement represents the *adivasis'* relationship with the forest as harmonious and reciprocal. It has organised resistance to state forest policies.[270] The Jharkhandis have opposed deforestation and the monocultural plantations with a slogan 'teak is *sarkar*, *sal* is Jharkhand' (*sarkar* = state). The slogan embodies the following thinking: *sal* is a local, subsistence tree, and teak is a national, commercial tree. However, the slogan is not merely about what selection of tree species people choose to grow. It is about resistance and opposition to the state government rule in the

[270] In Singhbhum district of Bihar people resisted teak plantations in 2000 hectares of the *sal* forest, and this became a symbol of movement. Elephants do not eat teak leaves, and were believed to seek food in areas under crops. The activists destroyed nurseries and justified the felling of *sal* trees on the ground that they enjoyed the traditional right to reclaim land for cultivation (Singh 1982: 20).

Jharkhand area; the Jharkhandis (as regional agents) are agitating for regional self-rule and autonomy. Agents' species selection is linked with political, cultural and cosmological aspects of their forest practices, and express their views of 'development', and refers to the social hierarchy among humans. Surprisingly, the Jharkhand movement has made relatively few demands for higher prices for forest produce (Kelkar and Nathan 1991: 26).

The Jharkhandis show resistance in three major fields: against the exploitation and marginalisation from production relations, against the ethnic categories that are used to dominate by more powerful groups, and against the subjection to a worldview that they cannot endorse, such as 'environmental managerialism' (Redclift 1992: 33-4). Why do these forms of opposition make sense to them, and why at this particular time in history? At one level, it is a question of how people themselves make sense of their lives, and on another level, it is a matter of trying to identify the social and historical context of their actions. According to the government, in the commercial forest exploitation the role of the *junglewala* was changed from multiple forest users into the producers of timber, and it was this transforming of their relationship to the forest that was putting their existence at risk. In some places a previously self-regenerating forest was turned into an ordered space of planted single trees in rows. With commercial exploitation of the forest, they became part of a larger world order and a modern space. (See Chapter 8: last paragraph of Practical knowledge of trees and firewood.)

Some foresters said that there are areas where foresters do not go because they will be beaten. Others said that local people are law-abiding. A senior forester said

> They say that local people are aggressive. I find they are very law-abiding. I have arrested 200-300 poachers, no resistance. They are just bluffing. [... In Bhubaneswar] they create a scene that this is Jharkhand area.

He thinks that the problem lies somewhere else.

> If your prime minister is corrupt, all others will be also. ... Everybody wants to squeeze the forest. ... a lack of accountability is spoiling everything. ... Everybody is guilty and the whole guilt is going on local people.

Third, the Jharkhand movement also represents a transformative process. An investigation into the prior and ongoing politics of the Jharkhand movement reveals it as a transformative process rather than merely resistance (Stoler 1986). Resistance can be more than opposition. It can be creative and transformative if the multiplicity of the agents and their changing and colliding intentions are taken into account (Ortner 1995: 191). For some, the Jharkhand movement represents a revitalisation movement[271] of the *adivasi* cosmovision model, and for others an ethno-ecological movement. The Jharkhand movement is internally contradictory and ambivalent, and has had a fragmentary leadership since the beginning. These set limits to their collaboration and resistance. While the *junglewala* and

[271] Revitalization movements, as deliberate and organised effort by members of a society to construct a more satisfying culture, often interested in restoring the relatedness of life (Wallace 1956: 265; Fernandez 1986: 191).

the Jharkhandis accept the representations which underwrite their own domination, they also preserve alternative traditions of belief and value which allow them to see through those representations (Ortner 1995: 182).

Ortner (1995: 190) argues that resistance studies are ethnographically thin. They overlook the cultural richness and internal politics of dominated groups, and the subjectivity (intentions, desires, fears) of the agents.[272] The most influential resistance studies are characterised by cultural thinning, such as marginalising religious factors and cognitive aspects of religion (Scott 1985), or by dissolving subject(s) (Pathak and Rajan 1989). For Marxists, religion mystifies the real (material) causes of formations and events, and creates 'false consciousness'. Marxists Indian historians share with bourgeois modernization theorists a view of religion as backward. Some Subaltern Studies writers want to validate peasant religiosity as a dimension of subaltern culture, out of which oppositional politics might be constructed (Ortner 1995: 180-181). Kaplan and Kelly (1994: 129) set aside the category of resistance, and insist on the thickness of the cultural process to have a complex but illuminating picture of shifting loyalties, alliances and categories, as British, native Fijians and Fiji Indians contested for power, resources, and legitimacy. Their intention is to focus on dialogue rather than on resistance to 'delineate not only structures of power but also dialogical process in transcursion of power' (Kaplan and Kelly 1994: 128).

Although resistance studies examine politics, they do not contain enough politics.

> The politics is usually limited to the politics of resistance, that is, the relationship between the dominant and the subordinate (Ortner 1995: 179).

Ortner criticises the tendency to 'sanitise' the internal politics of the dominated, and their own forms of inequality and asymmetry. Resistors do not simply oppose domination (mechanical reaction), they have their own cultures and politics (not merely reactive cultures and politics)[273] that are divided by internal conflicts between different groups: tree cutters against stone cutters, the young against the old, men against women, and general caste women against *adivasi* women. Women Jharkhandis are an example of the internal politics of dominated groups. They may undermine their own gender solidarity by supporting their men, but may gain something also. (See Chapter 4. Forest practices of Burupal, fn. 94.) In both villages, some villagers had a relative as a ward member, others did not know who s/he was, others knew, but had had no personal interaction.

> There is not ward member here. There may be in the *panchayat*, but not here (a 35-year-old man, Mopani).

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[272] For Geertz (1973), ethnography is 'thickness', an understanding through richness and detail. Thickness has been synonymous with exhaustiveness (details), with holism (the entire system), and nowadays with contextualisation. Ortner (1995: 174) argues that ethnographic refusal involves a refusal of thickness, and examines its reasons and consequences around the topic of resistance.

[273] The Comaroffs' (1992: 27) 'endogenous historicity of local worlds' means the pieces of reality, whether borrowed from or imposed by others, are woven together through the logic of a group's own bricolage (Ortner 1995: 176).

Resistance studies tend to dissolve subjects, and refuse to know, speak and write of the lived worlds inhabited by those who resist. The relationship of the individual person to domination carries the resistance problematic to the level of consciousness, subjectivity (desires, fears), intentionality, and identity (Ortner 1995: 187-8, 183). The intentionalities of actors and the meanings of acts change. A single person is not necessarily unitary (Ortner 1995: 175, 185). Cultural and psychological survival may require a kind of fragmented and shifting self (Nandy 1983: 197). Both the integrations and coherencies, and the breaks and splits of consciousness are part of cultural and historical process (Ortner 1995: 186-7). The poststructuralist aims to de-essentialise the subject, to get away from the ideological construct of the freely choosing individual and yet retain some sense of human agency, the capacity of social beings to interpret their situation and maintain or change it. Every social being has multiplex identity and for certain kinds of compounded powerlessness (*adivasi* and poor and illiterate), 'the refusal of subjectification' may be the only strategy available to the subject (Ortner 1995: 184).[274] The *junglewala* are pushed around by politicians, foresters, and NGOs, but not limitlessly.

What is the relationship between the *junglewala* and the Jharkhand movement? There is no single agency of the *junglewala* with the same hopes and fears. Ordinary *junglewala* do not lead movements of national resistance, nor write pamphlets. For some *junglewala*, the Jharkhand movement is part of their process of reflecting on the self and the world and of acting with the world, and they may support or oppose it themselves. For others, it is not significant in any way. Many *junglewala* do not support the Jharkhand, and this is not due to fear (Scott 1985), Christianity, or narrow self-interest. Some decide to collaborate with foresters and state forest practices. Collaborators can be participants as much as resistors are. Some forms of collaboration and resistance are *ad hoc,* incoherent and arise from the situation of domination itself. Others arise from their own senses of order, justice and meaning (Ortner 1995: 180). Idealisation tends to downplay the power of dominant classes, and the role of outside activists increasing the transformatory potential of the *adivasis* and the *junglewala* acting in local organisations and movements.

The interests and goals of the forest communities and the Forest Department seem to some agents oppositional, and to others forest communities and the Forest Department are possible partners. Several activities, such as grazing, hunting, and felling trees, can be interpreted as protests challenging state rights to forests, although the *junglewala* may not describe their activities in terms of resistance or protest against the Forest Department or the State. This resistance may be so much need-based and a survival strategy that it becomes questionable if it is resistance at all (Ortner 1995: 175). There are everyday forms of passive and active collaboration and resistance (White 1986: 60). Foresters as dominant others may offer subordinates, or some of them (landowners), benefits. Collaboration may be more beneficial than resistance. Moreover, when the person concerned does not consider the ownership nor rights to the forest to be with the Forest Department, but with villagers or spirits, this

[274] Fernandes et al. (1988: 107-129) write about 'cumulative inequalities': forest-dwellers are economically poor, socially marginal, culturally weak, educationally backward and politically powerless. This is similar to Chambers' (1983) notion of integrated poverty. These are outsiders' viewpoints and ethnocentric statements.

issue becomes even more controversial. A forester may interpret it as resistance, although a *junglewala* is not resisting consciously. Whether the act is considered as a question of necessity, protest, resistance or crime, depends from the view point of the agent and the interpreter, and the context in which this action takes place (Ortner 1995).

The changing we–they opposition in Jharkhand

In the Chotanagpur area, the territorial reach and the physical presence of the colonial state was often fragile, as the number of the *adivasi* rebellions indicates. The Mundas rebelled in 1789, 1808, 1811, 1818, 1820, 1832, 1857, 1887-90 and 1895-97, and the Santals in 1855-57, 1869-71, 1882 and 1885 (Mann 1867; Culshaw and Archer 1945; Devalle 1992: 109-35). The underlying reasons for the unrest were that settlers had exploited the *adivasis*' sense of justice, forced them to work unpaid, and (ab)used their women. After several rebellions, the Chotanagpur Tenancy Act was passed aiming to prevent further loss of *adivasi* land to settlers (Singh 1996: 86). In order to present any further rebellion and to protect the tribals from exploitation, the British formulated the policy of special administration for tribal areas, which were placed directly under the provincial governor (a Britisher). Indian nationalists opposed this as another way to divide the Indian people.

> [It was] mocked as a device of anthropologists to protect aboriginals as museum pieces for their science (Guha 1996: 2375).

Even so, the Indian government has similar policies regarding separate administration of tribal areas (Karlsson 1997: 47). Both in the colonial and independent India a gap between rhetoric and reality has remained. The British policies were isolationist towards the *adivasis*, and preferred Scheduled Areas partly because of the uprisings and partly because it was cheaper. Indian policies have been assimilationist towards the *adivasis*, with 'positive discrimination' to 'develop the tribals to the level of average Indians'. Government agents tend to treat the *adivasis* as a threat to 'development' and to the territorial control of the state. These fears are real in Jharkhand area, since many Jharkhandis are skeptical of the official policies, and demand self-rule (Corbridge 1991: 159, 164).

There is some controversy about the origins of the Jharkhand movement. Verma (1995: 58-9) and Sharma and Mukherji (1999: 2-3) trace the beginning of the Jharkhand movement to Christianity. The first Christian church was established in Chotanagpur area in 1845. Verma argues that a group of young educated *adivasi* social workers started it, and inspired a Pan-*adivasi* movement in the 1920s. In the 1920s the Catholic and Lutheran *adivasis* formed two organisations, which joined together as the *Adivasi Mahasabha*[275] at the end of 1930s, and from its political wing the Jharkhand Party was formed in 1949 aiming to reach its goals with constitutional means. According to Sharma and Mukherji (1999: 2-3), Catholics and Lutherans established Chotanagpur Development Society in 1915, which made the first recorded demand to form a separate Jharkhand state. Some Hindus accuse

[275] The Oxford-educated leader of the *Mahasabha*, an Anglican Munda, Jaipal Singh, revived the dream of Jharkhand kingdom. Many thought that Singh was a reincarnation of Birsa, who was a leader of rebellion (1895-1900).

the Jharkhand movement of being a 'Christian conspiracy', because of the role of Christians especially in the beginning.[276] For others, the construction of the Jharkhandi identity is part of the opposition to colonialism and internal-colonialism (exploitation of a particular region of the country). The Santal were until the late eighteenth century slash and burn horticulturalists. Permanent settlement and imposed British law caused major changes, such as the cultivation of cash crops. They often found themselves in debt due to the price fluctuations and the vagaries of the seasons. Some tried to oppose these with the Santal Insurrection and the various *Kherwar* (villager in Santali) resurgences, although these failed in a military and political sense, the message of Santal integrity did not (Duyker 1987: 159). The *Kherwar* movement begun in 1871 aiming to have *sapha Hor* (*sapha* = clean in Hindi), the ritually pure men, a politico-religious sect. Under the leadership of Bhagrit (their new Messiah), the Santals saw their oppression as a divine punishment for abandoning their traditional practices in a similar way as was Sidhu's and Kanu's message in 1855 (Duyker 1987: 112).[277] The British colonialism baffled the *adivasis*. For example, the Santal took the words of the colonial state on the face value, and marched to Calcutta to register their complaints to the Queen and got killed in thousands during the rebellion 1854. After the British suppressed their resistance, some joined the Christian churches, and got back some of their lost land through Tenancy Acts. Some got educated and few became leaders of the movement (Mullick 1996: 9, 14). Mahapatra (1986: 19) argues that in Mayurbhanj the Jharkhand movement started when a section of *adivasi* leaders opposed the merger of Mayurbhanj with Orissa.

There has been collaboration and resistance between the *adivasis* and their rulers for a long time.[278] Since the beginning of the century there has been industrial development in Mayurbhanj, and many people moved from the coastal area to Mayurbhanj, and tensions between competing interests increased. General castes, especially moneylenders[279], purchased *adivasi* land at low prices and became the dominant social and economic caste. (Also nowadays the high officials mostly belong to the general castes.) These led to further alienation of the *adivasis* and *Dikus* (Mahapatra 1986: 13).[280] The British recognition of the positions of the *adivasi* chiefs, *Manjhis* and *Parganaits* (territorial chiefs), encouraged the principle of Santal patrilineality, and an emotional bond with the land, ancestors and *bongas*. The introduction of money economy, wage labour and more democratic

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[276] Converts to Christianity used to be considered ritually polluted. They belong to the tribe, but were relegated to a lower status. Some Christians believe they do not belong to any caste, and may oppose the caste system. Non-Chriatian neighbours of Christians may not attend their weddings, because 'I don't eat Christian food.'

[277] Duyker refers to L.S.S. O'Malley. Bengal District Gazetteers: Santal Parganas. Calcutta 1910: 146.

[278] During the Maharaja rule the Santals and the Kolhos helped the Maharaja to conquer the Dharua *zamindar* in the Bamanghati area, and helped in royal hunting. A story of a place called *Akapalan* (*aka* = hanging; *palan* = saddle in Santali) is an example of disagreements. The Maharaja went there and a fire was lit, and the *junglewala* did not co-operate with him to extinguish the fire, so he bound a person by the legs to the saddle and made the horse run. People named the place 'hanging saddle' to make sure that the injustice will be remembered. The fire may have been lit because the *adivasis* opposed the visit and rule of the Maharaja with fire, they used fire to help hunting, or practised shifting cultivation. The *adivasis* have many folksongs that encourage to extinguish forest fire, so if they did not cooperate, they had a reason for it.

[279] According to a Santal riddle: An old hyena crunches a dry bone. -> A moneylender will leave you nothing (Archer 1974: 48).

[280] The immediate cause of the 1917 Santal revolt was the recruitment campaign (of 2000 *adivasis*) to serve in Egypt during the First World War. The Santals destroyed a railway line and markets, and expressed various grievances to the Commissioner over tax-increase, restrictions on collecting and selling forest produce, and selling *handia* at *haat* (Mahapatra 1986: 18). The Commissioner admitted that the system was unnecessarily complex, but the restrictions remained.

governance made the Santal aware of their position in relation to the *Dikus* and the British (Gautam 1977; Mahapatra 1986: 23-4).

In 1997, the area of Jharkhand activity comprises of the Chotanagpur plateau with extensions into the plains and hills of Santal *Paraganas* in the East and comprises nearly 80,000 square kilometres in the north eastern part of peninsular India (Singh 1996: 81). The core area of Jharkhand is the Bihar part of the Chotanagpur plateau. According to Verma (1995: 58), the Jharkhand area comprises 16 districts in the four states of Bihar, Madhya Pradesh (Raigarh, Surguja), Orissa (Keonjhar, Mayurbhanj, Sundargarh) and West Bengal (Bankura, Midnapor). Whereas for Singh (1996: 81), Jharkhand area consists of 21 districts in the states of Bihar (11), Madhya Pradesh (4), Orissa (4), and West Bengal (2) with a total population of over 30 million of which nearly 40 per cent are *adivasis* and 55 per cent *sadans* (various artisan and service castes). The major Scheduled Tribes in Jharkhand area are the Santal, Munda, Ho and Oraon.[281] They can be classified into two distinct linguistic groups: the Austro-Asiatic or Mundari-speaking (also called *Nisad*) include the Bhumiyas, Birhors, Hos, Kharias, Korkus, Korwas, Mal Paharis, Munda, and Santal, and the Dravidian-speaking include the Oraon, Chero and Malto.[282] A composite culture of the region is grounded on the intermixing of three cultural traditions: Austro-Asiatic, Dravidian, and Aryan (*sadan* cultural groups; Parajuli 1996: 8). The Jharkhand movement celebrates *adivasi* cultures, language, names and the spirit of self-rule. The Jharkhandis face a paradox, when they seek to revitalise and alphabetise *adivasi* languages, they risk loosing their vitality, since literacy can facilitate alienation from everyday reality (Fernandez 1986: 150-51). The Jharkhand region has a common tribal *lingua franca*, known as Sadri or Nagpuri. Naming, language and identity construction aim to establish unity and ethnic mobilisation of the Jharkhand movement.

Although the Jharkhand area is a commercially resource-rich area (minerals, forests and hydro-electric wealth), the inhabitants are a source of cheap labour and some of the poorest people of India.[283] Although Jharkhand is one of the fastest 'developing' areas of India (having 20% of the government owned industry), people say that 'Jharkhand is developing, but not the Jharkhandis', since the benefits go to the *Dikus* (Singh 1996: 89). Areeparampil (1995) sees Jharkhand as a rich land of poor people, and indigenous people as 'victims of development', and writes about the process of dispossession of indigenous people due to the degradation of the environment, land alienation and

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[281] The Munda are believed to come from Southern China, and first settled in Chotanapagpur (6th century B.C.). The villagers (*khuntkattidars*) cleared and 'owned' collectively forest land. The Oraons from Karnataka came after the Munda to Chotanagpur plateau. In 1585 the Mughal emperor and the Raja of Chotanagpur annexed Chotanagpur as a tributary to the throne in Delhi. The Mughal king granted the Jharkhand area to the British East India Company in 1765 (Singh 1996: 85), and the subsequent British colonial rule continued until 1947.

[282] There are also other groups. The Jhora, Bhuniya, Bhogta, Ghasi, and Pan are found only in Jharkhand, and were part of the other groups in the past. The original inhabitants of the area, but not listed as Scheduled Tribes, although similar to them are the Sadanis, Nagbansis, Kurmis and Bauris.

[283] Jharkhand comprises 2.5% of India's land and population, and it has 25% of India's mineral wealth (Jharkhand Coordination Committee Manifesto 1987 quoted in Parajuli 1996: 39). 30% of India's land is irrigated compared to 7% of Jharkhand; 27% of India's villages are electrified compared to 5% of Jharkhand; and although Bihar receives most of its revenue from the Jharkhand region, Jharkhand receives 10-15% of its budgetary allocation (Parajuli 1996: 39).

displacement. Many 'development activities' (mines, big dams, industries) and general caste settlers have displaced the *junglewala* from their lands.[284]

Parajuli (1996: 10-11) claims that this paradoxical existence, resources transported outside the reach of the residents of the area, forms the core of the contemporary Jharkhandi cosmovision. Parajuli's concept of 'ecological ethnicity' refers to the connection between regional ecology, ethnicity and their cosmovision. Ecological exploitation is bound with ethnic subordination, and is believed to cause disruptions in natural, human and cosmic interrelationships. This has created two phenomena: ecological destruction has been ethnicised, and ethnic subordination has been ecologised. For Parajuli,

> *ecological subordination is the content, ethnicity is the form in which it is experienced and expressed* (1996: 10; italic in original).

The Jharkhandis' shared history of exploitation has created a larger Jharkhandi identity against the *Dikus*, which Parajuli (1996: viii) defines as 'an abusive Jharkhandi term for (exploitative) "outsider"'. The *Dikus* migrated into Jharkhand under the auspices of the internal-colonial forces, and are the oppressive section of the *sadans*.

The identity of the Jharkhandis is defined in opposition to the concept of *Diku*. The evolution and meaning of the *Diku*-concept run parallel to the concept of Jharkhand as a regional movement. For instance, when the *adivasis* were no longer the biggest ethnic group in the area, there was redefinition of both self-identity and the identity of the *Diku*. When non-*adivasi* inhabitants, the *sadans*, joined the political organisations of the *adivasis*, the classification of the Scheduled Tribes no longer coincided with the popular understanding of who the original inhabitants were. Other ethnic groups used as a source of cheap labour made the Jharkhand movement to redefine the concept to include the *dalits* and *sadans*, and mean all exploited groups of the Jharkhand (Singh 1996: 86, 89).

Despite its failures, tribal policy with education and employment quotas in government institutions has produced a category of educated *adivasis* – an *adivasi* elite. Their position is insecure: Hindu middle-class society discriminates against them, and they also find it hard to adjust to the life and rules of their own community. They belong nowhere, they are somehow transitional people. Raichaudhuri (1992: 2555) doubts their ability to speak on the behalf of the majority, and culturally renew people's identity. He claims that the Jharkhand leaders' cultural revival-approach (reinterpreting tradition) have diluted the 'original spirit of the movement'. Such arguments fail to see that all identities are socially constructed, and follow the hegemonic narrative of 'tribal development' and 'integration', which, under the surface of (paternalistic) humanism, aim to keep the fragments in place, and oppose the aim of ethnic or national movements to get increased self-determination. Nevertheless, although the educated *adivasis* have an important role to play, both community and elite narratives of identity construction (which are interrelated) need to be taken into account to understand ethnic mobilisation and the construction of cultural identity (Karlsson 1997: 34-6).

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[284] Between 1951 and 1991 the proportion of the *adivasis* in the population of Jharkhand has decreased from 60% to 30% (Parajuli 1996: 11).

All identities, both personal and collective are constructed in and through relations of dominance, collaboration and resistance, and splits between the others and oneself. Like immigrants who resist racism by becoming blacks (Hall 1991: 48), the subordinated communities in India are struggling to have a place from which they can speak. Unlike Hall, who describes his black identity as constructed or learned, Karlsson, based on his research of the Rabhas in the sub-Himalayan Bengal, argues

> indigenous people involved in the reassertion of identity would risk their lives arguing the opposite, i.e. that their identity is one and the same. They, in other words, cling to an essentialist and ahistorical notion of identity (Karlsson 1997: 36).

Devalle (1992: 76) considers this 'sociologically groundless', but so is often the formation of nation-states as imagined communities (Anderson 1983).

Two issues constitute the basis for the demand of a separate Jharkhand state and the dynamics of the movement: people and land; that is, the exploiting *Diku*-rule (the right to practice their culture, mother tongue and traditions, the right to determine the form of self-government), and the increasing colonialisation of Jharkhand as a resource-rich region (land ownership and forest alienation, the right to use and manage natural resources). On the one hand, there is acculturation, nationalisation and 'mainstreaming' to Indian and Oriyan society, on the other hand, there is reculturation, regionalisation, and valuing of minorities: the forest-dwelling *adivasis* are turned into rolemodels. The Jharkhand leaders project an image of the *adivasis* as 'ecologically noble savages' living in harmony with nature, having equality in society and collectivism in economic activities (Singh 1996: 89).[285] This image is hard to come by in reality, and contradicted by the Jharkhandis themselves. For instance, some Jharkhandis struggle for greater gender equality in property rights and political participation. Nevertheless, nature and forests are an integral part of the *adivasis*' socio-cultural life. The forest is the home of the spirits, the place of worship and the seat of the ceremonies. Even where the *adivasis* have long ago been settled farmers, gathering and selling of forest produce are sources of sustenance and income. Although the Jharkhand leaders cling to the essentialist notion of identity, the identity of the Jharkhandis has changed, and been extended to the non-exploiting *sadans*. The Jharkhand movement has transformed from an exclusively *adivasi* movement to a regional movement that aims to accommodate the aspirations of the *sadans* to achieve independence (Mullick 1996: 8).

Since the beginning, the Jharkhand movement and its leadership has been fragmented. Some Jharkhandis emphasise the exploitation by the *Dikus*, and try to make political compromise through the introduction of reforms within the existing socio-economic and political framework. Others demand a separate Jharkhand State, and argue that without it the interests of the *adivasis* cannot be safeguarded. Both groups tend to demand primary education in *adivasi* languages (as part of ethnic identification),

[285] The Jharkhand leaders' image of the 'ecologically noble savage' is supported by Elwin's (1994) view. The Burman committee (1982) recognised the 'symbiotic relationship' between forests and the *adivasis*. Few government officials used the following expression to describe this: 'The relation between the tribals and forests is like that of fish and water.'

bigger quotas for job reservation and advocate cultural revival. There is an insight in what an aged Santal told Mahapatra

> our own culture and mythology kept us *together*. May be it also kept us poor. The new politics has brought us some benefit but it has completely divided us (1986: 20; italic in original).

Nevertheless, a clan-based organisation is not a total looser in front of the centralised state.

The Jharkhand movement and political parties

A general frustration over the lack of improvements after the Independence, and increased hardships and unrest created interest in the Jharkhand movement. There are three phases of the Jharkhand movement after independence. During the phase of 'passive consent' (1947-1965) the nationalist leaders convinced the Jharkhandis to submit their schemes in the name of sacrifice for nation-building. The Jharkhand movement merged with the Congress in 1963, and later the group split into various groups. The most popular has been the *Jharkhand Mukti Morcha* (*mukti* = free from slavery; *morcha* = platform; hereafter abbreviated 'JMM') (Verma 1995: 60).[286] Some factions favour agrarian radicalism and political extremism, such as the All Jharkhand Students' Union (AJSU; has used bombs), and the Jharkhand People's Party (JPP), which is not very active. During the phase of 'struggling for compensation' (1965-1975) the Jharkhandis struggled to be compensated. During the continuing phase of 'active resistance' (1975-) the Jharkhandis resist several development programs of the Indian state, and articulate alternatives (small dams, local species, self-rule). By 1970s, there were three patterns in the Jharkhand movement: militancy of labour in the mining and industrial sector, the struggle of the peasants and landless *adivasis* for radical reforms, and the general revival of the *adivasi* society and culture and promoting a political identity as Jharkhandis (Singh 1996: 92). At the height of this, the leaders of the JMM declared that the Jharkhand was *Lalkhand*, Jharkhand was the red zone: the movement of political separatism and struggle of the working classes go together (Singh 1982: 22).

The official policy in India encourages decentralisation as *panchayat* and JFM policies show, but in practice there is tendency towards status quo or centralisation. The President of the All Orissa *Panchayat Parishad*, Mr. Ray, argues that state and legislators try to paralyse *panchayat* system or make *panchayat* bodies non-functional fearing their loss of power: they do not want to transfer power to the grassroots through *panchayat* bodies. Though *Zilla Parishads* are entitled to implement schemes for economic development and social justice, the state government has transferred only two, *Jawahar Rozgar Yojana* and Rural Connectivity Programme, to them. As the *Zilla Parishads* have no administrative power, they are unable to function properly, for example, the *Jawahar Rozgar Yojana* fund is deposited with the District Rural Development Agency (*The Asian Age*, 26 November 1997). In a state-level convention at Rangelunda in January 1997, the *Orissa Adivasi Manch* urged the government to dissolve the *Gram Panchayats*, *Panchayat Samities* and *Zilla Parishads* in the

[286] The early *Jharkhand Mukti Morcha* made efforts to have education independent from governmental assistance and funding. They transformed *akh(a)ra* 'dancing place' into the *akil akh(a)ra* 'the place of knowledge' (Devalle 1992: 187).

Scheduled Areas, and conduct fresh polls for granting them self-rule. The members demanded further amendment of the *Orissa Gram Panchayat, Panchayat Samiti* and *Zilla Parishad* Acts (1997) that violate the Central Act and the spirit of the Burman Committee recommendations. Instead of decentralisation, the state government has centralised the administrative powers, and violates the Constitution (*The Asian Age*, 4 January 1997). It threatened to organise rallies in district headquarters to protest the government's apathy towards granting rights to the *adivasis* for self-rule (*The Telegraph*, 31 December 1997).[287]

The party leaders of the Jharkhand demand autonomy. At a rally in Rourkela (Bihar) in January 1998, Sibu Soren, a leader of the JMM and a member of the dissolved *Lok Sabha,*[288] taking cue from Subhas Bose's famous slogan: 'Give me blood and I will give you freedom', said:

> Give me a handful of rice and one rupee each, and I will give you Jharkhand state (Sibu Soren, Rourkela).

Advocating the creation of smaller states, he said it will provide better administration and ensure speedy growth for both the State and the country. He said the proposed Jharkhand state is not for the *adivasis* alone: 'Outsiders staying here will not be discriminated.' He said the six *Lok Sabha* seats where his party field candidates are in six districts of Orissa – Sundargarh, Sampalpur, Deogarh, Keonjhar, Balasore and Mayurbhanj – come under the Jharkhand state (*The Asian Age* 5, January 1998).

Mullick (1996: 11) argues that the integrationist theory of the state, the communalist approach of the Hindu fundamentalist forces and the dogmatic Marxism of the Marxist parties fail to understand the caste and tribe in India. 'Marxist' political parties labelled the Jharkhand as 'anti-national', 'separatist' and 'dis-integrationist' movement. According to the Declaration of the Jharkhand Coordination Committee (JCC), which is a network organisation of 48 organisations (Singh 1996: 93), the present Jharkhand movement was a continuation of the past anti-colonial (pan)ethnic movements. In encourages identity creation of the Jharkhand nationality to achieve an independent Jharkhand area. The Jharkhand Coordination Committee argues that the present political set-up blocks the *adivasis*' social, cultural and economic 'development'. For the Jharkhandis, 'development' does not necessarily mean increased consumption; they oppose the thinking that 'the more one consumes, the more developed he/she is' (Lourduswamy 1997: 5). The Jharkhand Movement tries to separate itself from the consumption culture.

Although there is widespread distrust (even antipathy) of parties and politicians, some hope the Jharkhand to change this, despite the current gap between the rhetoric and reality in Jharkhand. Many *junglewala* think that as a movement Jharkhand is good, but are disappointed with professional

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[287] The *Viswavidyalaya Sangharsha Vahini* of Mayubhanj district demands the establishment of the North Orissa University in Baripada. The *adivasi* leaders of Mayurbhanj and the Oriya-speaking tracts of East and West Singhbhum districts of Bihar and from Midnapur district of West Bengal support the university movement (*The Telegraph*, 31 December 1997).

[288] *Lok Sabha* is the House of the People, lower house of the Parliament, and upper house is *Rajya Sabha*, the Council of States.

politicians. There has been a tendency for political leaders to become too dictatorial, embroiled in electoral politics and drifted away from people (Singh 1996: 92). For instance, some *junglewala* said that an agent of a Jharkhand Member of Legislative Assembly collects Rs. 10 from outside transporters of wood in Simlipal. There has also been another tendency: traditional social and religious leaders are active where political leaders are inactive, and vice versa. Many *dehuris* believe in the importance of deciding when different *bongas* are held, but do not believe in party politics. Commenting the fluctuating support of the Jharkhand, a member of the Simlipal group said that before 1987 10 per cent were Jharkhand supporters, in 1987 50 per cent, in 1990 75 per cent, and 1995 10 per cent and has remained so until 1997. Although the support to the Jharkhand Parties has fluctuated a lot, the recent incidents are promising for the Jharkhandis. The Prime Minister Deve Gowda's government rethought the position of Uttarakhand in Uttar Pradesh, and this has lead to rethinking about Jharkhand in Chotanagpur and Gorkhaland in Darjeeling. Previously their demand for self-rule was seen as irrational response to governmental tribal policies that will die out. In Mayurbhanj, some government officials see that ethno-regionalism threatens the territorial integrity of the nation-state. They treat the Jharkhand as illegitimate, because it detracts from national unity. Nevertheless, there may be a Jharkhand State, since the Bill for its formation has been drafted and will be placed before the Parliament. The supporters of the draft bill believe it to encourage 'development' of the region (Sharma and Mukherji 1999: 3).

Some Jharkhandis argue that the Jharkhandi cosmovision (collectivism) is opposed to the dominant, reductionist frame of the development discourse (individualism) and its irrelevance in offering helpful rather than efficient alternatives for the *junglewala*. The Jharkhandis argue that industrial growth has accelerated deforestation in the region (Parajuli 1996: 33). Compartmentalised departments of the state manage forestry, irrigation and agriculture separately, but in Jharkhandis' cosmovision all of them are connected. This compartmentalisation extends to persons, who are 'dividuals' rather than 'individuals' of often incompatible commitments (Fernandez 1986: 188-9). The *junglewala* question the idea of what is waste and economically useful as well as the linear development model focusing on material meanings that may not be transformative in terms of happiness or freedom (Padel 1995: 311). The *junglewala*'s views differ from those of the central and state governments on who should have rights over forests, water and land, and over volume, scale, method (how these should be used), and for what purposes (Parajuli 1996: 31). Nevertheless, 'development' is not the opposite of resistance. The *junglewala* are not averse to 'development', but neither they accept everything that this label may mean, such as the resettlement from the Simlipal Tiger Reserve.

Overall, the Jharkhand movement and regional mobilisation show that identity formations, diverse livelihood strategies, and resisting central and state government policies are not only local concerns. Some activities of the Jharkhand movement aim to make a match between *Diku* and *Hor* forest practices and livelihoods, and imply that it is an ethno-ecological movement of Chotanagpur. It insists on a planned strategy incorporating the needs of the local people, ecology, economy, national

interests and self-determination. Some *junglewala* see the Jharkhand movement as an attempt to achieve justice (they are hunting for a better deal), others as a revitalisation movement of the *adivasis*' cosmovision model. It remains to be seen, whether the Jharkhand movement can match forest practices and livelihood sustainability, and provide alternatives to hard-core forest practices with life-affirming forest practices, which celebrate reciprocity and ecological prudence. Conservation is not mere protection against forest use made 'illegal', it is prudent use of present resources so that benefits can be shared by future generations. The Jharkhand movement shows several individuals and communities as active social and historical agents, and whether their activities are interpreted to imply social imagination, resistance, alternative cosmovision model, or transformative process interconnecting cosmology and political process, does not change this.

The *junglewala* and party politics

Although the *junglewala* have diverse views on political parties and development activities, many are disillusioned with politicians and do not expect them to make improvements. Eight households of Mopani had voted for 'Indira Gandhi' or *hato* (elephant), which is the symbol of the Indian National Congress (INC) party. One household had voted *sismandi*, which is a particular kind of fowl sacrificed to *bongas*, and reminds of the connections between nature, humans and cosmos, and is a symbol of the Jharkhand party. The flag of the Jharkhand Party is green to emphasise the common cultural and ecological heritage of the Jharkhandis, and could be interpreted as a sign of the Green movement of Chotanagpur. One household had voted *Janata* (people; Bharitya Janata Party, BJP), the party currently in power. The choice of the candidate may depend on the community of the candidate, rather than the party as such, and for example the Bhumijo vote the Bhumijo candidate.

In Burupal, fifteen households had voted for the Jharkhand, eleven for the Congress, two for the Janata, and 36 either did not support any particular party ('independent', 'no preference', 'we don't believe in political parties', 'all alike, only problems'), wanted to keep it as a 'secret' ('we're service holder'), or had not voted ('didn't want to loose'). A young Santal man, whose father had been a ward member of the Congress party, got involved in politics in 1993, and said

> We've tested all political parties before. Jharkhand is a new party and [we] want to see what they do (a young Santal man, Burupal).

In both 1998 and 1999 elections Salkhan Murmu (Santal) of the BJP won in Mayurbhanj. [289]

Some *junglewala* said that the Congress party had built road, tubewell, L.I. Point, *Indira Awaas Yojona* houses, and given pension to some persons. For most *junglewala*, development activities 'are in the pipeline'. In Burupal, six households said that political parties had not done any developmental works:

> After the British, no one is doing anything. ... Only come when voting time. Villagers do all work ... All households contribute to roadbuilding (an old Sadgup man, Burupal).

[289] In Orissa the total number of seats is 21 (in India 543), and in 1999 elections the BJP and its allies got 19 (294) seats, the INC and its allies, including JMM 2 (138), and others in India got 105.

> See the position of the road! How do you ask, if they have done anything? (an old Sadgup woman, Burupal).
>
> They don't come after getting our votes (several Burupalians).
>
> All come for vote, but no one comes for development (several Burupalians).
>
> The Block Development Officer comes for individual *kariba* (development), but not for village development [... and that] there may be a meeting in the *panchayat*, but not in the village (a middle-aged Bhumijo man, Mopani).
>
> When any politician comes, they promise to do this. When they get a seat, they don't even discuss with us. They tell to go to the Collector, [and ask] why have you come to a politician. For us, there are many schemes, but we [the *adivasis* and the poor] get nothing. [... He had heard about the schemes from offices in town.] We never believe in political parties. No development work, only eating work [meaning malpractices and bribes] (a middle-aged Santal man, Burupal).

The *junglewala* mentioned several problems, some related to problems of daily livelihood: food(ing), water (lack of well, or not enough water during summer), irrigation, flood, dam construction, land, soil erosion of paddy field, rising prices, not able to get the Public Distribution System cards from the Block Development Office, not able to get an *Indira Awaas Yojona* house, kerosene oil, no electricity, and/or money loan. Other problems dealt with communication: the lack of roads, no bus, and a long distance to see a doctor.[290] Some villagers also mentioned social problems, such as quarrelling between and among villagers, partiality and difficulties to oppose illegal activities. Nine households said they have no problems. Few older persons said that a lot of changes have happened in the last twenty years.

> If anyone works hard with a good brain, then good living. Beliefs have changed from father's time. People aren't honest any more. Economical and political interference are the causes. ... [and] unemployment (a middle-aged Santal man, Burupal).
>
> We've problems, but we've to maintain rituals (an old Santal man, Burupal).
> If I start a grocery shop that will be my achievement (a young Bhumijo man, Mopani).

Several guardians said that to maintain a family, they have many financial problems. Many *junglewala* complained about the loans: the loan was not given, it was given gradually, the subsidy (half of the total amount) was not given at all, or they were given sick animals, who died within days or weeks.[291] Several expressed their views with the following proverb:

> *bahuta khati, khati maruche* a lot of work (or hard labour), work will kill us.

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[290] Especially the residents of Simlipal complain about the lack of buses, and that *haats* are far away from the village. The Simlipal Tiger Reserve administration does not allow buses. Overall there has been a reduction is government-run routes and buses in Mayurbhanj (*The Asian Age*, 30 December 1997). According to the Simlipal group, major problems in Simlipal are resettlement, irrigation, food, education, housing, communication (no bridge is Badakasaria), collection and selling of NTFP, threats if the residents construct canals to water fields, and the expenditure involved in getting to a health center, shop and market.

[291] In Simlipal many households have taken paddy loan from *dhana mahajan* (paddy lender). An average loan is 40 kilograms, and the interest for a half a year is 10 kilograms.

Some said they have only problems, no achievements. The Mopanians said that their achievements were good quality resin, honey, firewood, wood, *Indira Awaas Yojona* houses, paddy field and tubewell. Few villagers made a causal connection between tubewell and fever: 'Fever is less after tubewell'. The Burupalians said that their achievements were house, cot, paddy, possibility to buy land, having money or loan money, easy food, 'we work and get food','we don't buy anything', getting the monthly rice ration cards, and co-operation.

In short, many *junglewala* are interested in their own activities, and not in political parties. Some *junglewala* are disillusioned with the Jharkhand as with other political parties. Others support some ideas of the Jharkhand movement, not necessarily the party, and hope that it will make a beneficial change in their real living conditions. So far many *junglewala* feel that the politicians are interested to get their votes, but after elections people are left with handling their problems and achievements on their own.

BIBLIOGRAPHY[292]

Newspapers and magazines

Baripada mill production comes to halt. *The Asian Age*, 30 December 1997 (in the same paper abou the reduction in government-run routes and buses in Mayurbhanj).

Cashing in on the leaves of grass. Bose, Amarendra. *The Telegraph*, 10 December 1997

Falling bricks. *Down to Earth* **6:15**, 31 December 1997

Government patronage to timber mafia alleged. *The Hindu* (on Internet), 21 January, 1997.

Gujarat: Deep Rooted Scandal. *India Today*, 30 April, 1989.

Husbands's interfere. *The Asian Age*, 15 December 1997.

IAS has become new ruling class. *The Asian Age*. Delhi. 22 December 1997.

Infant mortality. *The Telegraph*, 8 June 1997.

Jharkhand. Rourkela. *The Asian Age*, 5 January 1998

Low quality seeds to farmers. Balasore. *The Asian Age*, 11 January 1998.

Man gets life for killing 'witch'. P. Roy. *The Asian Age*, 28 December 1997

Mayurbhanj readies for battle for University. *The Telegraph*, 31 December 1997.

Pesticides. *Down to Earth* **6:14**, 15 December 1997.

Rs9-crore WB project in jeopardy. Baripada. *Financial Express*, 5 January 1994.

Simlipal is burning: FD staff under the danger of akhand shikar. Bhubaneswar. Eastern Media Service. *Sambad*, 13 December 1997.

State wants to paralyse panchayat system. *The Asian Age*. Bhubaneswar. 26 November 1997.

Villagers piqued over leasing of bamboo forest. *The Telegraph*. Angul. 19 January 1997.

The Indian Forester. Dehra Dunn: Allahabad.

Tribal body demands self rule. Hrusikesh Mohanty. Berhampur. *The Asian Age*, 4 January 1997.

Where the piasal tree will be seen in Simlipal in the future? *Pragativadi*, 6 January 1997.

Documents, reports, and working plans:

Annual Plan for Mayurbhanj District, 1995-96 & 1996-97.

Bakhla. A.O.F. (WP officer, Keonjhar). 1996. *Revised Working Plan for the Reserved Forests of Karanjia and Baripada Divisions*. For the period from 1996-97 to 2015-16. (Under the guidance of A.P. Tripathy, CF, Working Plan Circle, Cuttack.)

Bose, S. 1981. *Revised Working Plan for the Reserved Forests of Baripada Forest Division*. For the period 1973-74 to 1992-93. Cuttack: GOO, the Forest Department, Working plan circle.

Das, M.C. 1981. *Working Plan: Baripada Division for the period of 1973-73 to 1992-93*. Cuttack: GOO, Forest Department.

District Statistical Hand Book 1995. 1997. Mayurbhanj. Directorate of Economics and Statistics, Orissa. Bhubaneswar, GOO.

Economic Survey 1996-97. 1997. GOO: Planning and Coordination Department. Directorate of Economics and Statistics.

Forester's calendar 1997.

GOI Circular. 1893. National Archives of India, Delhi. Revenue and Agricultural Department, Forestry, A, nos 16-18, p.1-3, "Position of Revenue and Forest Officers in regard to the Administration of State Forest Lands."

GOI. 1976. *Report of the National Commission on Agriculture*. Part 4, Forestry. Delhi: Ministry of Agriculture and Irrigation.

GOI. 1988. *National Forest Policy*. Delhi: Ministry of Environment and Forests.

Jee, S. 1957. *Working Plan for the Reserved forests of Baripada, Udala, Karanjia and Rairangpur Forest Divisions in Mayurbhanj district*. For the period from 1953-54 to 1972-73.

JFM: Budhikhamari. 1997. Baripada Forest Division, Pithabata range.

JFM resolution. 1993. Orissa, Notification No. 16700 -10F (Pron) - 20/93- Forest and Environment Department, GOI, dated 3-7-1993. Published in The Orissa Gazette, No. 875 Cuttack, July 5, 1993.

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[292] GOI = Government of India
GOO = Government of Orissa
OUP = Oxford University Press

JFM Workshop 1994. Organised by the Society for Promotion of Wastelands Development (SPWD) and Professional Assistance for Voluntary Action (PRAVA). 25-27.10.1994.

Laeequiddin, Mohammad. 1937. *Census of Mayurbhanj State 1931*. Vol. 1 Report. Calcutta: Caledonian Printing Company.

Lease of MFP. DFO Baripada Office. 29.11.1996.

Mahapatra, S. 1996. (Field Director, revised by Mahapatra). *Management plan for the Simlipal Tiger Reserve*. For the period 1987-88 to 1996-97. GOI: Forest Department.

Mishra, S.K. 1994. JFM workshop publication by the Society for Promotion of Wastelands Development and Professional Assistance for Voluntary Action.

National Archives of India. 1878. (Sir Henry Maine.) Legal Department, Mar. 1878, A, nos 43-142, Appendix BBB, "The Statement of Objects and Reasons of Act VII of 1865." Petition to the Viceroy, Lord Lytton, from proprietors of freehold villages in taluqa Salsette, Thana, Bombay, 10 Oct. 1877.

Orissa Forest Manual with code. 1997. (eds) Justice N.K. Das & Achyutandanda Routray. An ORL Publication. Cuttack: High Court Square.

Participatory Forest Management Project. 1995. *Ecological study of the forests under FPCs in the Nayagram range, West Midnapore, West Bengal*. PFM Study Series 5. Rural Development centre. Indian Institute of Technology (IIT), Kharagpur.

Pradhan, Rabindra Nath. 1995. *Disnic-plan project report*. A database for micro-level planning. District: Mayurbhanj, Orissa. Baripada: National Informatics Centre.

PRAVA-report. 1994. *Bio-diversity conservation strategy*. Sanjeev Padhi, Sanjeet Das, Subrat Nayak. Professional Assistance for Voluntary Action, supported by Centre for Ecological Sciences, Indian Institute of Science, Bangalore.

Roy Burman, B.K. 1982. *Report on the Committee on Forest and Tribals*. Ministry of Home Affairs. Tribal Development Division. Delhi: GOI.

State of Orissa's Environment. 1994. A citizen's report. Bhubaneswar: Council of Professional Social Workers (CPSW).

Success story of Budhikhamari, Manchabandha, Hatikote and Bhagabat Chandrapur Reserved Forests. 1997. The District Forest Official, Baripada Office.

The Mourbhanj Forest Manual with Form and Appendices. 1911. Published under the Authority of the Chief. Cuttack: The Orissa Mission Press.

The National Forest Policy Resolution. 1988. GOI.

The Wildlife (Protection) Act, 1972, as amended by Act No. 26 of 1993. 1997. Animals in Schedules I, II, III, IV, or V in Orissa Forest Manual with code. (eds) Justice N.K. Das, Achyutandanda Routray. An ORL Publication. Cuttack: High Court Square, (754-824).

Books and articles:

Adam, Barbara. 1994. Running out of time. Global crisis and human engagement. In *Social Theory and the Global Environment*. (eds) M. Redclift & T. Benton. London: Routledge (92-112).

Agarwal, Anil (ed.). 1992. *The Price of Forests. Proceedings of a seminar of the sustainable use of forest resources*. Delhi: Centre for Science and Environment.

Agrawal, Arun. 1995. Dismantling the Divide between Indigenous and Scientific Knowledge. *Development and Change* **26**, 413-439.

Agarwal, Bina. 1986. *Cold hearts and barren slopes. The fuelwood crisis in the Third World*. London: Zed books.

_____ 1994. *A field of one's own. Gender and land rights in South Asia*. Delhi: Cambridge Univ. Press.

_____ 1997. Paper presented at the workshop of the social construction of community participation in forest management. Edinburgh University. ICFRE JFM Research Project. Delhi. 9-11 April.

Alvares, Claude. 1994. *Science, development and violence. The revolt against modernity*. Delhi: OUP.

Anderson, Benedict. 1983. *Imagined communities: reflections on the origin and spread of nationalism*. London: Verson.

Apffel Marglin, Frédérique. 1990. Smallpox in two systems of knowledge. In *Dominating knowledge. Development, culture and resistance*. (eds) F. Apffel Marglin & Stephen Marglin. Oxford: Clarendon Press (102-44).

_____ 1992. Generating and regenerating the lived world. 'Nature, culture, self: decolonizing knowledge'- seminar. Lohja, August 24-28, 1992. Helsinki: Institute of Development Studies.

_____ with Purna Chandra Mishra. 1993. Sacred groves: regenerating the body, the land, the community. In *Global Ecology. A new arena of political conflict.* (ed.) Wolfgang Sachs. London: Zed books (197-297).

Archer, W.G. 1974. *The hill of flutes. Life, love and poetry in tribal India. A portrait of the Santals.* London: George Allen & Unwin Ltd.

Ardener, Edwin. 1972. Belief and the problem of women. In *The Interpretation of Ritual. Essays in honour of A.I. Richards.* (ed.) J.S. LaFontaine. London: Tavistock Publications (135-58).

Areeparampil, Mathew. 1995. *Tribals of Jharkhand: Victims of development.* (A story of industries, mines and dispossessions of indigenous peoples). Delhi: Indian Social Institute.

Arnold, David & Ramachandra Guha (eds) 1995. *Nature, culture, imperialism. Essays on the environmental history of South Asia.* Delhi: OUP.

Asad, Talal (ed.) 1973. *Anthropology and the Colonial Encounter.* London: Atlantic Highlands, N.J. Ithaca Press; Humanities Press.

Atareya Brahmana. 1976. In *The Aitareya Brahmanam of the Rigveda.* rpt. ed. (ed. and transl.) Martin, Haug. Delhi: Bharatiya Publishing House.

Atran, Scott. 1987. Origin of the species and genus concepts: An anthropological perspective. *Journal of the History of Biology* **20**, 195-279.

_____ 1990. *Cognitive foundations of natural history. Towards an anthropology of science.* Cambridge: Univ. Press.

_____ 1993. Whither 'ethnoscience'? In *Cognitive aspects of religious symbolism.* (ed.) Pascal Boyer. Cambridge: Univ. Press (48-70).

Baden-Powell, B. H. 1876. The political value of forest conservancy. *Indian Forester,* II.

Bailey, F.G. 1960. *Tribe, Caste, and Nation. A study of political activity and political change in highland Orissa.* Manchester: Univ. Press.

_____ 1961. 'Tribe' and 'caste' in India. *Contrib. Ind. Sociol.* **5**, 7-19.

Balée, W. 1994. *Footprints of the forest, Ka'apor ethnobotany. The historical ecology of plant utilization by an Amazonian people.* New York: Columbia Univ. Press.

Banuri, Tariq & Frédérique Apffel-Marglin. 1993. The environmental crisis and the space for alternatives: India, Finland and Maine. In *Who will save the forests? Knowledge, power and environmental destruction.* (eds) Banuri, Tariq & Frédérique Apffel-Marglin. UNU/WIDER. London: Zed Books (24-52).

Banwari, S. 1992. *Panchavati. Indian approach to environment.* Delhi.

Barnes, Barry & David Bloor. 1982. Relativism, rationalism and the sociology of knowledge. In *Rationality and Relativism.* (eds) M. Hollis & S. Lukes. Oxford: Basil Blackwell (1-20).

Baviskar, Amita. 1995. *In the Belly of the River. Tribal conflicts over development in the Narmada Valley.* Delhi: OUP.

Benedict, Ruth. 1935. *Patterns of Culture.* London: RKP.

Berlin, Brent. 1992. *Ethnobiological classification. Principles of categorization of plants and animals in traditional societies.* Princeton: Univ. Press.

_____, J. Breedlove & P. Raven. 1973. General principles and nomenclature in folk biology. *Am. Anthropologist* **75**, 214-42.

_____, Dennis E. Breedlove & Peter H. Raven. 1974. *Principles of Tzeltal plant classification: an introduction to the botanical ethnography of a Mayan-speaking people of highland Chiapas.* New York: Academic Press.

Bird-David, Nurit. 1990. The giving environment: another perspective on the economic system of gatherer-hunters. *Curr. Anthrop.*, **31:2**, 183-96.

_____ 1993. Tribal metaphorization of human-nature relatedness: a comparative analysis. In *Environmentalism. The view from anthropology.* (ed.) Kay Milton. ASA Monographs 32. London: Routledge (112-125).

Blaikie, Piers, Katrina Brown, Michael Stocking, Lisa Tang, Paul Sillitoe & Peter Dixon. 1996. Understanding local knowledge and the dynamics of technical change in developing countries. Socio-economic methodologies workshop. *ODA Natural Resources Systems Programme.*

Bloch, Maurice. 1991. Language, anthropology and cognitive science. *Man* (N.S.) 26 (183-198).

_____ 1992. What goes without saying: the conceptualization of Zafimaniry society. *Conceptualizing society.* (ed.) A. Kuper. London: Routledge (127-46).

_____ 1993. Domain-specificity, living kinds and symbolism. In *Cognitive aspects of religious symbolism*. (ed.) Pascal Boyer. Cambridge: Univ. Press (111-120).

_____ 1998. Why trees, too, are good to think with: towards an anthropology of the meaning of life. In *The social life of trees. Anthropological perspectives on tree symbolism*. (ed.) Laura Rival. Oxford: Berg (39-55).

Boal, Barbara M. 1982. *The Konds: human sacrifice and religious change*. Warminster: Aris, Phillips.

Boeck de, Filip. 1994. Of trees and kings: politics and metaphor among the Aluund of Southwestern Zaire. *Am. Ethnol.* **21:3**, 451-73.

Bodding, P.O. 1932-36. *Santal Dictionary*. Oslo: Norske Videnskaps-Akademi, 5 volumes.

_____ 1986 [1925]. *Studies in Santal medicine and connected folklore*. Parts I, II, III. Calcutta: The Asiatic Society.

Bompas, Cecil Henry. 1909. *Folklore of the Santal Parganas*. London: David Nutt.

Bonner, J.T. 1980. *The Evolution of Culture in Animals*. Princeton: Univ. Press.

Borofsky, R. 1994. Assessing the Field. In *Assessing Cultural Anthropology*. (ed.) R. Borofsky. New York: McGraw-Hill, Inc.

Bose, N.K. 1928. Marriage and kinship among the Juangs. *Man in India* **8:4** (233-42).

Bouez, Serge. 1985. *Réciprocité et hiérarchie: L'Alliance chez les Hos et les Santal de l'Inde*. Paris: Société d'Ethnographie.

Bourdieu, Pierre. 1977 [1972]. *Outline of a theory of practice*. (transl.) Richard Nice. Cambridge: Univ. Press.

_____ 1979. *Distinction. A social critique of the judgement of taste*. (transl.) Richard Nice. London: Routledge & Kegan Paul.

_____ 1990 [1980]. *The logic of practice*. (transl.) Richard Nice. Cambridge: Polity Press.

Boyer, Pascal. 1993. *Cognitive aspects of religious symbolism*. Cambridge: Univ. Press.

_____ 1994. *The Naturalness of religious ideas. A cognitive theory of religion*. Berkeley: Univ. of Berkeley Press.

_____ 1999. Human cognition and cultural evolution. *Anthropological theory today*. (ed.) Henrietta Moore. Cambridge: Polity Press (206-233).

Brandis, D. 1885. Progress of Forestry in India. In *Reports of experiments of the Growth of wheat for the second period of twenty years in succession on the same land*. (eds) J. Bennet Lawes & J.H. Gilbert. London: William Clowes and Sons Ltd. (1-35). (Transactions of the Scottish Arboricultural Society **10:3**, 1884.)

Brokensha, David, D. Michael Warren & Oswald Werner. 1980. *Indigenous knowledge systems and development*. Lanham, MD: Univ. Press of America.

Brosse, J. 1989. *Mythologie des arbres*. Paris: Payot.

Brush, Stephen B. 1993. Indigenous knowledge of biological resources and Intellectual Property Rights. *Am. Anthrop.* **95:3**, 653-86.

Bruun, O. & A. Kalland (eds) 1995. *Asian Perceptions of Nature: A critical approach*. Richmond: Curzon Press.

Buchanan-Hamilton, F. 1838 [1810]. An Account of the District Rangpur. In *History, Antiquities, Topography and Statistics of Eastern India*. Vol. 3. (ed.) M. Martin. London.

Capra, Fritjof. 1997 [1996]. *The web of life. A new synthesis of mind and matter*. London: Flamingo.

Carrin-Bouez, Marine. 1986. *La fleur et l'os. Symbolisme et rituel chez les Santal*. Paris: École des Hautes études en sciences sociales.

Carter, A.T. 1984. Household histories. In *Households: Comparative and Historical Studies of the Domestic group*. (eds) R. McCorkle Netting, R.R. Wilk & E.J. Arnould. Berkeley: Univ. of California Press (44-83).

Chambers, Robert. 1983. *Rural Development: putting the last first*. London: Longman.

_____ 1986. *Sustainable livelihoods*. Mimeo. Univ. of Sussex, Institute of Development Studies.

_____, A. Pacey & L.A. Thrupp (eds) 1989. *Farmer first: Farmer innovation and agricultural research*. London: Intermediate Technology Publications.

Champion, H.G. & S.K. Seth. 1968. *General silviculture for India*. Delhi: Manager of Publications.

Chatterji, Angana P. 1996. *Community Forest Management in Arabari: Understanding Sociocultural and subsistence issues*. Delhi: Society for Promotion of Wasteland Management.

Chatterjee, Partha. 1993. *The nation and its fragments. Colonial and postcolonial histories*. New Jersey: Princeton Univ.

Chattopadhyaya, D.P. 1996. *Interdisciplinary studies in science, technology, philosophy and culture.* Delhi: Project of History of Indian Science, philosophy and culture.

Chaturvedi, A.N. 1993. Sustainability of community participation in forest management. *Wasteland News* **8:2**, 53-6.

Chaudhuri, A.B. 1984. *Witch-killings amongst the Santals.* Delhi: Ashish Publishing house.

Clifford, James. 1988. *Predicament of Culture: Twentieth Century Ethnography, Literature, and Art.* Cambridge, MA: Harvard Univ. Press.

Clifford, James & George E. Marcus. 1986. *Writing culture: the poetics and politics of ethnography.* Berkeley: Univ. of California Press.

Cohn, Bernand S. 1987. The Census, Social Structure and Objectification in South Asia. In *An anthropologist among Historians and Other Essays.* (ed.) B.S. Cohn. Delhi: OUP (224-54).

Colchester, Marcus. 1994. *Salvaging nature. Indigenous peoples, protected areas and biodiversity conservation.* Discussion paper 55. United Nations Research Institute for Social Development (UNRISD). World Rainforest Movement. World Wildlife for nature.

Coleman, James. 1990. *Foundations of social theory.* Cambridge: The Belknap Press of Harvard Univ. Press.

Collingwood, R.G. 1949 [1945]. *The idea of nature.* Oxford: Clarendon Press.

Comaroff, Jean. and John Comaroff. 1991. *Of Revelation and Revolution: Christianity, Colonialism and Consciousness in South Africa.* Chicago: Chicago Univ. Press.

_____ 1992. *Ethnography and the historical imagination.* Boulder, Col.: Westview Press.

Conklin, H. 1954. An Ethnoecological Approach to Shifting Agriculture. *Transactions of the New York Academy of Sciences* **17**, 133-42.

Conklin, Beth & Laura R. Graham. 1995. The Shifting Middle Ground: Amazonian Indians and Eco-Politics. *Am. Anthropologist* **97:4**, 695-710.

Conroy, Czech, Abha Mishra & Ajay Rai. 1999. *Learning from self-initiated community forest management groups in Orissa: Practices, prospects and policy implications.* Draft.

Corbridge, Stuart. 1991. Ousting Singbonga: The struggle for India's Jharkhand. In *Colonialism and development in the contemporary world.* (eds) Chris Dixon & Michael J. Heffernan (153-182).

Corbridge, Stuart & Sarah Jewitt. 1997. From forest struggles to forest citizens? Joint Forest Management in the unquiet woods of India's Jharkhand. *Environment and Planning* A, **29**, 2145-64.

Counelis, James Steve. 1984. Knowledge, values and world-views: a framework for synthesis. In *The touch of Midas. Science, values and environment in Islam and the West.* (ed.) Ziauddin Sardar. Manchester: Univ. Press (211-231).

Croll, Elisabeth & David Parkin. 1992. Anthropology, the environment and development. In *Bush base : forest farm. Culture, environment and development.* (eds) Elisabeth Croll & David Parkin. London: Routledge (3-10).

Croll, Elisabeth & David Parkin. 1992. Cultural understandings of the environment. In *Bush base : forest farm. Culture, environment and development.* (eds) Elisabeth Croll & David Parkin. London: Routledge (11-36).

Crooke, W. 1896. *The popular religion and folklore of Northern India.* Vol. 2. London: Archibald Constable & CO.

Culshaw, W.J. 1949. *Tribal heritage. A study of the Santals.* London: Lutterworth Press.

Culshaw, W.J. & W.G. Archer. 1945. The Santal Rebellion. *Man in India,* vol. XXV.

Dahl, G. & A. Hjort. 1976. *Having herds: pastoral herd growth and household economy.* Stockholm: Univ. of Stockholm.

Deb, D. 1993. *An estimation of the possible effect of community leaf harvesting on the productivity of sal.* Calcutta: IBRAD.

Daniélou, A. 1985. *The gods of India.* New York.

Darwin, Charles. 1950 [1859]. *The Origin of species.* London: Watts.

Dasmann, Raymond, F. 1988. Towards a biosphere consciousness. In *The ends of the earth. Perspectives on modern environmental history.* (ed.) Donald, Worster. Cambridge: Univ. Press (277-88).

Deleuze, G & F. Guattari. 1987. *A thousand plateaus. Capitalism and schizophrenia.* London: The Anthlone Press.

Denzin, Norman K. & Yvonna S. Lincoln. 1998. Introduction. Entering the field of qualitative research. In *Strategies of Qualitative inquiry*. (eds) Norman K. Denzin & Yvonna S. Lincoln. London: Sage (1-34).

Descola, Philippe. 1992. Societies of nature and the nature of societies. In *Conceptualizing society*. (ed.) A. Kuper. London: Routledge (107-126).

_____ 1994 [1986]. *In the society of nature. A native ecology in Amazonia*. Cambridge: Univ. Press.

_____ 1996. Constructing natures. Symbolic ecology and social practice. In *Nature and society. Anthropological perspectives*. (eds) Philippe Descola & Gísli Pálsson. European association of social anthropology. London: Routledge (82-102).

_____ and Gísli Pálsson. 1996. Introduction. In *Nature and society. Anthropological perspectives*. (eds) Philippe Descola & Gísli Pálsson. European association of social anthropology. London: Routledge (1-21).

Devalle, Susana B.C. 1992. *Discourses of ethnicity. Culture and protest in Jharkhand*. Delhi: Sage.

DeWalt, Billie. 1994. Using IK to improve agriculture and natural resource management. *Human organisation* **53:2**, 123-31.

Dickens, Peter. 1992. *Society and Nature. Towards a green social theory*. London: Harvester Wheatsheaf.

Dirks, Nicholas, B. 1986. From little kind to landlord: property, law, and the gift under the Madras permanent Settlement. *Comp. Stud. Soc. & Hist.* **28**, 307-33.

Dougherty, J.W.D. 1983. *West-Futuna-Aniwa: an introduction to a Polynesian outlier language*. University of California Publications in Linguistics 102. Berkeley: Univ. of California Press.

Douglas, Mary. 1957. Animals in Lele religious symbolism. *Africa* **27**, 46-58.

____ 1966. *Purity and Danger. An analysis of concepts of pollution and taboo*. London: Routledge & Kegan Paul.

_____ 1982 [1973]. *Natural symbols. Explorations in cosmology*. New York: Pantheon Books.

_____ 1996. *Thought styles. Critical essays on good taste*. London: Sage.

Dove, Michael R. 1994. 'Jungle' in nature and culture. In *Social Ecology*. (ed.) Ramachandra, Guha. Delhi: OUP (90-115).

_____ 1996. So far from power, so near to the forest: a structural analysis of gain and blame in tropical forest development. In *Borneo in transition. People, forests, conservation, and development*. (eds) Christine Padoch & Nancy Lee Peluso. Oxford: OUP (41-58).

Dumont, Louis. 1959. Structural definition of a folk deity of Tamil Nad: Aiyanar, the Lord. *Contrib. Ind. Sociol.* **3**, 75-87.

_____ 1966. *Homo hierarchicus. The caste system and its implications*. London: Weidenfeld & Nicolson.

Durkheim, E. & M. Mauss. 1963 [1903]. *Primitive classification*. (trans.) Rodney Needham. London: Cohen and West.

Durkheim, E. 1960 [1912]. *Les Formes Elémentaires de la Vie Religieuse. Le Systéme Totémique en Australie*. Paris: Formes Primitives de France.

Duyker, Edward. 1987. *Tribal guerrillas. The Santals of West Bengal and the Naxalite Movement*. Delhi: OUP.

Ellen, Roy F. 1996. The cognitive geometry of nature: a contextual approach. In *Nature and society. Anthropological perspectives*. (eds) Philippe Descola & Gísli Pálsson. European association of social anthropology. London: Routledge (103-123).

Ellen, Roy F. & David Reason (eds) 1979. *Classifications in their Social Context*. London: Academic Press.

Elwin, Verrier. 1958. A Philosophy of NEFA. Shillong: NEFA Administration.

_____ 1994. Civilizing the savage. In *Social Ecology*. (ed.) Ramachandra, Guha. Delhi: OUP (249-74).

Escobar, Arturo. 1995. *Encountering development. The making and unmaking of the Third World*. New Jersey: Princeton Univ. Press.

Evans-Pritchard, E.E. 1965*a* (5th ed.) [1937]. *Witchcraft, oracles and magic among the Azande*. Oxford: Clarendon Press.

_____ 1965*b*. *Theories of Primitive Religion*. Oxford: Clarendon Press.

Fairhead, James & Melissa Leach. 1994. Contested forests: modern conservation and historical land use in Guinea's Ziama reserve. *African Affairs* **93**, 481-512.

_____ 1996. Misreading the African landscape: society and ecology in a forest-savanna mosaic. Cambridge: Univ. Press.

_____ 1998. Representatives of the Past: trees in historical dispute and socialised ecology in the forests zone of the republic of Guinea, West Africa. In *The social life of trees. Anthropological perspectives on tree symbolism.* (ed.) Laura Rival. Oxford: Berg, (253-271).

Fernandes, Walter (ed.) 1992. *National Development and Tribal Deprivation.* Delhi: Indian Social Institute.

Fernandes, Walter & Geeta Menon. 1987. *Tribal women and forest economy.* Delhi: Indian Social Institute.

Fernandes, Walter, Geeta Menon & Philip Viegas. 1988. *Forests, environment and tribal economy: Deforestation, impoverishment and marginalisation in Orissa.* Delhi: Indian Social Institute.

Fernandes, Walter. 1996. A forest bill by the forest dwellers and social activists. In *Drafting a people's forest bill: the forest dweller-social activist alternative.* (ed.) Walter Fernandes. Delhi: Indian Social Institute (1-32).

Fernandes Walter & Vijay Paranipye. 1997. *Rehabilitation policy and law in India: a right to livelihood.* Delhi: Indian Social Institute.

Fernandez, James W. 1977. The performance of ritual metaphors. In *The social use of metaphor.* (eds) J.D. Sapir & J.C. Crocker. Philadephia: Univ. of Pennsylvania Press (100-31).

_____ 1982. *Bwiti. An ethnography of the religious imagination in Africa.* Princeton: Univ. Press.

_____ 1986. *Persuasions and performances. The play of tropes in culture.* Bloomington: Indiana Univ. Press.

_____ 1991. Introduction: Confluents of inquiry. In *Beyond Metaphor. The theory of tropes in anthropology.* (ed.) James Fernandez. Stanford: Univ. Press (1-13).

_____ 1998. Trees of knowledge of self and other in culture: on models for the moral imagination. In *The social life of trees. Anthropological perspectives on tree symbolism.* (ed.) Laura Rival. Oxford: Berg

Fortes, M. 1966 [1962]. Totem and taboo. *Proceedings of the Royal anthropological Institute.*

Foucault, Michel. 1980. *Power/ Knowledge. Selected interviews and other writings 1972-77.* Brighton: The Harvester Press Ltd.

Frazer, James George. 1993 [1922]. *The golden bough. A study in magic and religion.* Ware: Wordsworth Editions.

Fuller, C.J. 1992. *The Camphor Flame. Popular Hinduism and society in India.* Princeton: Univ. Press.

Fürer-Haimendorf, Christoph von with contributions by Michael Yorke and Jayaprakash Rao. 1982. *Tribes of India: the struggle for survival.* Berkeley: Univ. of California Press.

Gadgil, Madhav & D.S. Chandran. 1992. Sacred groves. In *Indigenous vision. Peoples of India, attitudes to the environment.* G. Sen. Delhi: Sage (183-87).

Gadgil, Madhav & K.C. Malhotra. 1994. The ecological significance of caste. In *Social Ecology.* (ed.) Ramachandra, Guha. Delhi: OUP.

Gadgil, Madhav & Ramachandra Guha. 1995*a* [1992]. *This fissured land. An ecological history of India.* Delhi: OUP.

Gadgil, Madhav & Ramachandra Guha. 1995*b*. *Ecology and equity. The use and abuse of nature in contemporary India.* Delhi: Penguin books.

Gautam, Mohan K. 1977. *In search of an identity: a case of the Santal of northern India.* Ph.D. Social anthropology. Leiden.

Geertz, Clifford. 1973. *The Interpretation of Culture.* New York: Basic Books.

____ 1983. *Local knowledge.* London: Fontana press.

Ghosh, G.K. 1993. *Orissa: the dazzle from within. Art, Craft and Culture of Orissa.* Delhi: Ashish Publishing House.

Ghurye, G.S. 1980 [1963]. *The Scheduled Tribes of India.* London: Transaction Books.

Gibson, J.J. 1979. *The Ecological Approach to Visual Perception.* Boston: Houghton Mifflin.

Goody, Jack. 1977. *The domestication of the savage mind.* Cambridge: Univ. Press.

____ 1984 [1982]. *Cooking, cuisine and class. A study in comparative sociology.* Cambridge: Univ. Press.

____ 1993. Garlands in India: the marigold and the jasmine. In *The culture of flowers.* (ed.) Jack Goody. Cambridge: Univ. Press (321-46).

Grey, John & David J. Mearns. 1989. Household and domestic group - society from the inside out. In *Society from the inside out. Anthropological perspectives on the South Asian Household.* (eds) John Gray & David J. Mearns. Delhi: Sage (13- 34).

Grimble, R.J., J. Aglionby & J. Quan. 1994. *Tree resources and environmental policy: a stakeholder approach.* NRI Socio-economic series 7. Natural Resource Institute, Overseas Development Administration.

Grove, Richard. 1995. *Green imperialism: colonialism, tropical islands Edens, and the origins of environmentalism 1600-1860.* Studies in Environment and History. Cambridge: Univ. Press.

Gudeman, Stephen. 1986. *Economics as culture. Models and metaphors of livelihood.* London: Routledge & Kegan Paul.

Guha, Ramachandra. 1989. *The Unquiet Woods: ecological change and peasant resistance in the Himalaya.* Delhi: OUP.

____ 1990. An early environmental debate: the making of the 1878 Forest Act. *Ind. Econ. Soc. Hist. Rev.* **27:1**, 65-84.

____ 1996. Dietrich Brandis and India forestry: a vision revisited and reaffirmed. In *Village Voices, Forest Choices. JFM in India.* (eds) Mark Poffenberger & Betsy McGean. Delhi: OUP (86-100).

____ 1996. Savaging the Civilised. Verrier Elwin and the Tribal Question in Late Colonial India. *Economic and Political Weekly*, Special number, September (2375).

Haines, H.H. 1925. *The Botany of Bihar and Orissa.* An account of all the known indigenous plants, of the province and of the most important or most commonly cultivated exotic ones. London: Adlard & Sons & West Newman, Ltd.

Hall, S. 1991. 'The local and the global: Globalisation and Ethnicity' and 'Old and New Identities, Old and New Ethnicities.' In *Culture Globalisation and the World-System.* (ed.) A.D. King. London: Macmillan.

Hammersley, Martyn & Paul Atkinson. 1995 [1983]. *Ethnography: Principles in Practice.* London: Routledge.

Hardiman, David. 1987. *The coming of the Devi: Adivasi assertion in Western India.* Delhi: OUP.

Harré, R., D. Clarke & N. DeCarlo. 1985. *Motives and Mechanisms.* London: Methuen.

Harris, Marvin. 1968. *The rise of anthropological theory: a history of theories of culture.* New York: Thomas Y. Crowell.

_____ 1977. The Origin of the sacred cow. In *Cannibals and kings. The Origins of Cultures.* (ed.) Marvin Harris. New York: Vintage Books (211-29).

Harris, M. 1980. *Culture, People and Nature: an introduction to general anthropology.* New York: Harper and Row.

Hastrup, Kirsten. 1989. Nature as historical space. *Folk* **31**, 5-20.

Hays, T.E. 1979. Plant classification and nomenclature in Ndumba, Papua New Guinea Highlands. *Ethnology* **18:3**, 253-70.

Hegel, Georg W. F. 1910. *The Phenomenology of Mind.* Translated, with an introduction and notes by J.B. Baille. London: S. Sonnenschein.

Heidegger, M. 1968. Ce qu'est et Comment se Détermine la Physis. In *Questions II.* Paris: Gallimard.

Herbert, Eugenia W. 1993. *Iron, gender and power. Rituals of Transformation in African Societies.* Bloomington and Indianapolis: Indiana Univ. Press.

Heron, John. 1996. *Co-operative inquiry. Research into the human condition.* London: Sage.

Hobart, Mark. 1993. *An anthropological critique of development: the growth of ignorance.* London: Routledge.

_____ 1995. As I lay laughing. Encountering global knowledge in Bali. In *Counterworks. Managing diversity of knowledge.* (ed.) Richard Fardon. London: Routledge (49-72).

Hobley, Mary. 1996. Why participatory forestry? In *Participatory forestry: the process of change in India and Nepal.* (ed.) Mary Hobley. Rural Development Forestry Study Guide 3. Rural Development Forestry Network. London: Overseas Development Institute (1-24).

Hoffman, J. (with A Van Emelen). 1930 et seq. *Encyclopaedia Mundarica.* Patna: Superintendent Government Printing (14-15 vols.).

Holland, Dorothy & Naomi Quinn (eds) 1987. *Cultural models in language and thoughts.* Cambridge: Univ. Press.

Hornborg, Alf. 1996. Ecology as semiotics: Outlines of a contextualist paradigm for human ecology. In *Nature and society. Anthropological perspectives*. (eds) Philippe Descola & Gísli Pálsson. European association of social anthropology. London: Routledge (45-62).

Horton, R. 1970. African traditional thought and western science. In *Rationality*. (ed.) B.R. Wilson. Oxwell: Blackwell (155-87).

Howell, S. 1984. *Society and Cosmos: Chewong of Peninsular Malaysia*. Oxford: OUP.

_____ 1996. Nature in culture or culture in nature? Chewong ideas of 'humans' and other species. In *Nature and society. Anthropological perspectives*. (eds) Philippe Descola & Gísli Pálsson. European association of social anthropology. London: Routledge (127-44).

_____ 1998. May blessings come, may mischiefs go! Living kinds as agents of transitions and transformation in an eastern Indonesian setting. In *The social life of trees. Anthropological perspectives on tree symbolism*. (ed.) Laura Rival. Oxford: Berg (177-196).

Howes, M. & R. Chambers. 1980. Indigenous technical knowledge: analysis, implications and issues. In *Indigenous knowledge systems and development*. (eds) D. Brokensha, D. Warren & O. Werner. Lanham, MD: Univ. Press of America (329-40).

Hunn, E.S. 1982. The utilitarian factor in folk biological classification. *Am. Anthrop.* **84**, 830-47.

Hvinding, Edward. 1996. Nature, culture, magic, science: on meta-languages for comparison in cultural ecology. In *Nature and society. Anthropological perspectives*. (eds) Philippe Descola & Gísli Pálsson. European association of social anthropology. London: Routledge (165-184).

Ingold, Tim. 1986. *Appropriation of nature: essays on human ecology and social relations*. Manchester: Univ. Press.

_____ 1992. Culture and the perception of the environment. In *Bush base: forest farm. Culture, environment and development*. (eds) Elisabeth Croll & David Parkin. London: Routledge (39-56).

_____ 1993. Globes and sphere: The topology of environmentalism. In *Environmentalism. The view from anthropology*. (ed.) Kay Milton. ASA Monographs 32. London: Routledge (31-42).

_____ 1996. Hunting and Gathering as Ways of Perceiving the Environment. In *Redefining nature. Ecology, culture and domestication*. (eds) Roy Ellen & Katsuyoshi Fukui. Oxford: Berg (117-55).

Jain, S.K. 1996 [1968]. *Medicinal plants*. Delhi: National Book Trust.

Jewitt, Sarah. 1996. Gender and environmental knowledge systems in Jharkhand. Reconstructing Jharkhand. Workshop. Sidney Sussex College, Cambridge, UK, 1-3 August 1996 (1-19).

Jodha, N.S. 1986. Common property resources and rural poor in dry regions of India. *Economic and Political Weekly*, 5 July.

Jonsson, Stefan & Rai Ajay. 1994. *Forests, people and protection. Case studies of voluntary forest protection by communities in Orissa*. ISO/Swedforest. Swedish International Development Agency.

Kant, Shashi, Neera M. Singh & Kundan K. Singh. 1991. *Community Based Forest Management Systems. Case Studies from Orissa*. Delhi: Aegean Offset Printers.

Kaplan, Martha & John Kelly. 1994. Rethinking resistance: dialogics of 'Disaffection' in Colonial Fiji. *American Ethnologist* **21:1** (123-51).

Karlsson, B.G. 1997. *Contested belonging. An indigenous people's struggle for forest and identity in sub-Himalayan Bengal*. Lund: Monographs in Social Anthropology 4.

Kelkar, Govind & Dev Nathan. 1991. *Gender and Tribe. Women, Land and Forests in Jharkhand*. London: Zed books.

Keller, J.D. & F.K. Lehman (U. Chit Hlaing). 1993. Computational complexity in the cognitive modelling of cosmological ideas. In *Cognitive aspects of religious symbolism*. (ed.) Pascal Boyer. Cambridge: Univ. Press (74-92).

Khare, R.S. 1976*a*. *Culture and reality. Essays on the Hindu System of Managing foods*. Simla: Indian Institute of Advanced Study.

_____ 1976*b*. *The Hindu Hearth and home*. Delhi.

Kipling, John Lockwood. 1891. *Beast and man in India. A popular sketch of Indian animals in their relations with the people*. London: Macmillan and co.

Knight, John. 1997. A tale of two forests: reforestation discourse in Japan and beyond. *Journal of Royal anthropological Institute* **3:4**, 711-30.

Kothari, Ashish, Neena Singh & Saloni Suri (eds) 1996. *People and protected areas. Towards participatory conservation in India*. Delhi: Sage Publications.

Kuper, Adam. 1992. *Conceptualizing society*. London: Routledge.
Köngas Maranda, Ellie. 1971. The Logic of Riddles. In *Structural Analysis of Oral Tradition*. (ed.) Ellie Köngas Maranda & Pierre Maranda. Philadelphia: Univ. of Pennsylvania Press.
Lakoff, George. 1990 [1987]. *Women, fire, and dangerous things. What categories reveal about the mind*. Chicago: Univ. of Chicago Press.
Lakoff, George & Mark Johnson. 1980. *Metaphors we live by*. Chicago: Univ. of Chicago Press.
Lakoff, George & Mark Turner. 1989. *More than cool reason. A field guide to poetic metaphor*. Chicago: Univ. of Chicago Press.
Lal. J.B. 1996. Silvicultural and institutional revision for sustainable forest management. In *Management of minor forest produce for sustainability*. (eds) M.P. Shiva & R.B Mathur. Delhi: Oxford & IBH Publishing Co. Pvt. Ltd (107-115).
Latour. B. 1993 [1991]. *We have never been modern*. Translated by C. Porter. New York: Harvester Weatsheaf.
Leach, Edmund. 1972. Anthropological aspects of language: animal categories and verbal abuse. In *Mythology. Selected readings*. (ed.) Pierre Maranda. Harmondsworth: Penguin (39-67).
Lévy-Bruhl, L. 1926. *How natives think*. London: Allen & Unwin.
Lévi-Strauss, Claude. 1963. *Structural Anthopology*. Vol. 1. New York: Basic Books.
_____ 1964. *Totemism*. (transl.) Rodney Needham. London: Merlin Press.
_____ 1965. Le triangle culinaire. *L'Arc* **26** (19-26). (English transl. Brooks, P. 1966. *Partisan Review* **33** (586-95).
_____ 1966 [1962]. *The savage mind*. London: Weidenfeld & Nicolson.
_____ 1969. *The Elementary Structures of Kinship*. (transl.) James Harle Bell, John Richard von Strumer & Rodney Needham. London: Beacon Press.
_____ 1972. Structuralism and Ecology. *Gildersleeve Conference*. Barnard College: Barnard Alumnae.
_____ 1978 [1968]. *The origin of table manners*. Introduction to a science of mythology, 3. (transl.) John and Doreen Weightman. London: Jonathan Cape.
_____ 1981 [1971]. *The Naked Man*. (Tr. from the French by John & Doreen Weightman.) London: Cope.
_____ 1986 [1964]. *The raw and the cooked*. Introduction to a science of mythology I. (transl.) John and Doreen Weightman. Harmondsworth: Penguin.
Lincoln, Bruce. 1986. *Myth, Cosmos, and Society. Indo-European Themes of Creation and Destruction*. Cambridge: Harvard Univ. Press.
Lohmann, L. 1993. Green Orientalism. An editorial in *The Ecologist* **23:6**.
Lomnitz, Larissa. 1981. El congreso científico: una perspectiva antropológica. *Vuelta* **56**. Mexico City.
Long, Norman & Ann Long (eds) 1992. *Battlefields of knowledge. The interlocking of theory and practice in social research and development*. London: Routledge.
Lourduswamy, Stan. 1997. *Jharkhandi's claim for self-rule. Its historical foundations and present legitimacy*. Delhi, Indian Social Institute and Chaibasa, Bindrai Institute for Research, Study and Action.
Lovejoy, Arthur, O. 1976 [1936]. *The Great Chain of Being. A Study of the History of an Idea*. Cambridge, MA: Harvard Univ. Press.
Macphail, R.M. 1983 [1953]. *An introduction of Santali* parts I & II. Calcutta: Firma KLM Private Limited.
Mahapatra, Sitakant. 1986. *Modernization and ritual: identity and change in Santal society*. Delhi OUP.
_____ 1992. Invocation. Rites of Propitiation in Tribal Societies. In *Indigenous Vision. Peoples of India. Attitudes to the Environment*. (ed.) Geeti Sen. Delhi: Sage (63-74)
Majumdar, Nabendu Datta. 1955. *The Santal. A study in culture-change. Department of Anthropology*. Calcutta: GOI.
Malamoud, Charles. 1976. Village et forêt dans l'ideologie de l'Inde brâhmanique. *Arch. europ. sociol.* **17:1**, 3-20.
_____ 1996. *Cooking the World. Ritual and thought in ancient India*. Translated from the French by David White. French Studies in South Asian culture and society. Delhi: OUP.
Malinowski, Bronislaw 1948. *Magic, science and religion and other essays*. Glencoe: The Free Press.

Malhotra, K.C. & Mark Poffenberger (eds) 1989. *Forest Regeneration through Community Protection: The West Bengal Experience*. Calcutta: West Bengal Forest Department.

Malhotra, K.C., D. Debal, M. Dutta, T.S. Vasulu, G. Yadav & M. Adhikari. 1992. *Role of the NTFP in village economy*. Calcutta: IBRAD.

Mamdani, Mahmood. 1996. *Citizen and subject. Contemporary Africa and the legacy of late colonialism*. Princeton Studies in culture/power/history. London: Fountain publishers.

Mann, E.G. 1867. *Sonthalia and the Sonthals*. London.

Marcus, George E. & M. J. Fischer. 1986. *Anthropology as cultural critique*. Chicago: Univ. of Chicago Press.

Marriott, McKim. 1955. Little community in an indigenous civilization. In *Village India. Studies in the little community*. (ed.) McKim Marriott. Chicago: Chicago Univ. Press (171-222).

_____ 1968. Caste ranking and food transactions: a matrix analysis. In *Structure and change in Indian society*. (eds) M. Singer & B.S. Cohn. Chicago: Aldine.

Martin, Gary, J. 1995. *Ethnobotany*. London: Chapman & Hall.

Maturana, Humberto & Francisco Valera. 1992 [1987]. *The tree of knowledge. The biological roots of human understanding*. Translated by Robert Paolucci. Revised edition. Boston & London: Shambala.

Mauss, Marcel. 1938. Une catégorie de l'espirit human: la notion de personne, celle de'moi. (Huxley Memorial Lecture 1938). *J R. anthrop. Inst.* **68**, 263-81.

Mauzé, Marie. 1998. Northwest coast trees: from metaphors in culture to symbols for culture. In *The social life of trees. Anthropological perspectives on tree symbolism*. (ed.) Laura Rival. Oxford: Berg (233-251).

Mayer, Adrian, C. 1960. *Caste and kinship in central India. A village and its region*. London: Routledge & Kegan Paul.

McGreen, Betsy, S.B. Roy & M. Chatterjee. 1996. Learning to learn: Training and gender sensitization in Indian Forest Department. In *Village Voices, Forest Choices. JFM in India*. (eds) Mark Poffenberger & Betsy McGean. Delhi: OUP (230-55).

McIntosh, R. 1987. Pluralism in Ecology. *Annual Review of Ecological Systematics* **18**, 321-41.

Mehta, G. 1995. A culture of trees. *Resurgence* **168**, 31-5.

Merchant, Carolyn. 1981. *The death of nature: women, ecology and the scientific revolution*. London: Wildword House.

Merlau-Ponty, Maurice. 1962 [1945]. *Phenomenology of Perception*. trans. Colin Smith. London: Routledge & Paul.

Milton, Kay (ed.) 1993. *Environmentalism. The view from anthropology*. ASA Monographs 32. London: Routledge.

_____ 1996. Anthropology, culture and environmentalism. In *Environmentalism and cultural theory. Exploring the role of anthropology in environmental discourse*. (ed.) Kay Milton. London: Routledge (1-36).

Mitra, A. & S. Pahl. 1994. The spirit of the sanctuary. *Down to Earth* **31**, 21-36.

Mohanty K.K. & S.C. Mohanty. 1998. Understanding *Sarna Dharam. Adivasi: the Journal of the Tribal and Harijan Research-cum-training Institute*. Bhubaneswar: the Scheduled Castes and Scheduled Tribes Research Institute.

Mohanty, S.C. 1995. JFM in Orissa: An emerging programme. In *Enabling Environment for JFM*. (ed.) S.B. Roy. Forest Studies Series F 004. Delhi: Inter India Publications (231-241).

Mohanty, S.C. 1996. A brief note on implementation of JFM in Orissa. *Wasteland News* **XI:3**, Feb-April 1996 (51).

Mooney, Herber. 1950. *Supplement to the Botany of Bihar and Orissa*. Ranchi: Catholic Press.

Moore, H.L. 1988. *Feminism and Anthropology*. Cambridge: Polity Press.

_____ (ed.) 1996. *The Future of Anthropological Knowledge*. London: Routledge.

Morris, Brian. 1991. Tribes of India. *Man in India* **71** (2 & 3), June-September (521-31).

_____ 1996*a*. A short history of wildlife conservation in Malawi. Centre of African Studies. Occasional papers, No. 64. Univ. of Edinburgh.

_____ 1996*b*. *Chewa medical botany. A study of herbalism in southern Malawi*. International African Institute. Hamburg: LIT Verlug.

_____ 1998. *The power of animals. An ethnography*. Oxford: Berg.

Mukherjee, C. 1962. *The Santals*. Calcutta: A. Mukherjee & Co. Pvt. Ltd.

Mukherjee, Neela. 1997. *Participatory Appraisal of natural resources*. Studies in rural participation 3. Delhi: Concept Publishing Company.

Mullick, Sanjay Bosu (Ranchi). 1996. The ideology of reconstruction in Jharkhand movement (1-15). Reconstructing Jharkhand. Workshop. Sidney Sussex College, Cambridge, UK (1-3 August 1996). (Dept. of Geography).

Murty, Krishna T. 1994. *Minor Forest Products of India*. Delhi: Oxford IBM Publishing CO. Pvt. Ltd.

Nader, Laura (ed.) 1996. Anthropological inquiry into boundaries, power, and knowledge. *Naked science. Anthropological inquiry into boundaries, power and knowledge*. London: Routledge (1-25).

Naess, Arne. 1993 [1976]. *Ecology, community and lifestyle*. Outline of an ecosophy. Translated and edited by David Rothenberg. Cambridge: Univ. Press.

Nair, P.T. 1965. Tree marriage in India. In *Tree symbol worship in India*. (ed.) S.S. Gupta. Calcutta.

Nandy, Ashis (ed.) 1988. *Science, Hegemony and Violence*. Delhi: OUP.

Narotzky, Susan. 1997. *New Directions in economic anthropology*. London: Pluto Press.

Needham, R. 1973. *Belief, language and experience*. Oxford: U.K. Basil Blackwell.

Nelson, Nici & Susan Wright. 1995. *Power and Participatory Development: Theory and Practice*. London: Intermediate Technology Publications Ltd.

Obeysekere, Gananath. 1980. The Rebirth Eschatology and its Transformations: A Contribution to the Sociology of Early Buddhism. In *Karma and Rebirth in Classical Indian Traditions*. (ed.) Wendy O'Flaherty. Berkeley etc.: Univ. of California Press (137-64).

Orans, Martin. 1965. *The Santal. A tribe in search of a great tradition*. Detroit: Wayne State Univ. Press.

Ortner, Sherry B. 1995. Resistance and the Problem of Ethnographic Refusal. *Comp. Stud. Soc. & Hist.* **37**, 173-93.

Overing, Joanna. 1985. Today I shall call him 'Mummy: multiple worlds and classificatory confusion. In *Reason and morality*. (ed.) Joanna Overing. ASA Monographs 24. London: Tavistock Publications (152-179).

Padel, Felix. 1995. *The Sacrifice of Human Beings. British rule and the Konds of Orissa*. Delhi: OUP.

Padoch, Christine & Nancy Lee Peluso (eds). 1996. *Borneo in Transition. People, Forests, Conservation and Development*. Oxford: OUP.

Pálsson, Gísli. 1996. Human-environment relations. Orientalism, paternalism and communalism. In *Nature and society. Anthropological perspectives*. (eds) Philippe Descola & Gísli Pálsson. European association of social anthropology. London: Routledge (63-81).

Parajuli, Pramod. 1996. No nature apart: adivasi cosmovision and ecological discourses in Jharkhand, India. Reconstructing Jharkhand. Workshop. Sidney Sussex College, Cambridge, UK (1-3 August 1996).

Parker, R.N. 1923. The Indian Forest Department. *Empire Forestry Journal* **2:1** (34-41).

Parkin, David. 1982. Introduction. In *Semantic Anthropology*. (ed.) David Parkin. A.S.A. Monograph 22. London: Academic Press (xi-li).

Parkin, Robert. 1992. *The Munda of Central India. An account of their social organisation*. Delhi: OUP.

Parry, Jonathan, P. 1979. *Caste and Kinship in Kangra*. London: Routledge & Kegan Paul.

Pathak, Zakia, Rajeswari, Sunder Rajan. 1989. "Shabano." *Signs* **14:2** (558-82).

Patnaik, L.K., H. Egneus & S.S. Das. 1989. *Social Forestry Handbook for Orissa 2*. SIDA.

Pauchauri, Rashmi. 1994. Sal plate processing and marketing in West Bengal. Sustainable forest management. *Working Paper* No. 12. Delhi: Ford Foundation.

Peluso, Nancy Lee. 1992. *Rich Forests, Poor People: Resource Control and Resistance in Java*. Berkeley: Univ. of California Press.

Pike, K. 1954. *Language in Relation to a Unified Theory of the Structure of Human Nature*. Glendale: Summer Institute of Linguistics.

Poffenberger, Mark & Betsy McGean. 1996. Introduction. In *Village Voices, Forest Choices. JFM in India*. (eds) Mark Poffenberger & Betsy McGean. JFM in India. Delhi: OUP (1-13).

Poffenberger, Mark, Betsy McGean & Arvind Khare. 1996. Communities sustaining India's Forests in the Twenty-first Century. In *Village Voices, Forest Choices. JFM in India*. (eds) Mark Poffenberger & Betsy McGean. JFM in India. Delhi: OUP (17-55).

Poffenberger, Mark & Chhatrapati Singh. 1996. Communities and the State: Re-establishing the Balance in Indian Forest Policy. In *Village Voices, Forest Choices. JFM in India*. (eds) Mark Poffenberger & Betsy McGean. JFM in India. Delhi: OUP (56-85).

_____ 1996. Valuing the Forests. In *Village Voices, Forest Choices. JFM in India.* (eds) Mark Poffenberger & Betsy McGean. JFM in India. Delhi: OUP (259-86).

_____ & Betsy McGean. 1996. *Village Voices, Forest Choices. JFM in India.* Delhi: OUP.

Popper, K.R. 1980 [1959]. *The Logic of Scientific Discovery*, tenth impression, revised. London: Unwin Hyman.

Posey, Darrell A. & Graham Dutfield. 1996. *Beyond Intellectual Property. Toward Traditional Resource Rights for Indigenous Peoples and Local Communities.* Ottawa: International Development Research Centre.

Prusty, B.C. 1996. Project exit shall persist. *Down to Earth.* March **15:2**.

Raichaudhuri, Srabani. 1992. The Jharkhandis: Vision and Reality. A micro-study of Singbhum. *EPW* **27:47**, 21 November (2551-56).

Rangarajan, Mahesh. 1996. *Fencing the forest: conservation and ecological change in India's central provinces 1860-1914. Studies in social ecology and environmental history.* Delhi: OUP.

Rappaport, Roy. 1968. *Pigs for the ancestors.* New Haven: Yale Univ. Press.

Raumolin, Jussi. 1990. The problem of forest-based development as illustrated by the development discussion 1850-1918. Univ. of Helsinki. Department of Social Policy. *Research Report* 4/1990.

Raumolin, Jussi. 1997. *Indicators of sustainability.* (unpublished)

Ray, Ujjwal Kanti, Amal Kumar Das, Sunil Kumar Basu. 1982. *To be with Santals.* Calcutta: Cultural Research Institute. Scheduled Castes and Scheduled Tribes Welfare Department. Government of West Bengal.

Redclift, Michael. 1992. Sustainable development and popular participation: a framework for analysis. In *Grassroots environmental action: Peoples's participation in sustainable development.* (eds) Dharam Ghai & Jessica M. Vivian. London: Routledge (23-49).

Rg Veda. 1877. In *Die Hymnen des Rigvedas.* (ed.) Theodor Aufrecht. Bern: Adolph Marcus.

Richards, Paul. 1985. *Indigenous agricultural revolution: ecology and food production in West Africa.* London: Hutchinson.

Risley, Herbert. 1915 [1891]. *The people of India.* Second edition. (ed.) W. Crooke. London: W. Thacker and Co.

Rival, Laura. (ed.) 1998. *The social life of trees. Anthropological perspectives on tree symbolism.* Oxford: Berg.

_____ 1998. Trees, from symbols of life and regeneration to political artefacts. In *The social life of trees. Anthropological perspectives on tree symbolism.* (ed.) Laura Rival. Oxford: Berg, (1-36).

Riviére, P.G. 1975. The couvade: a problem reborn. *Man* **9,** 423-35.

Roe, Emery M. 1995. Except-Africa. Post-script to a special section of development narratives. *World Development* **23: 6**, 1065-69.

Roth, J. 1962. Comments on "secret observation. *Social Problems* **9: 3**, 283-4.

Roy, S.B. (ed). 1995. *Enabling Environment for JFM.* Forest Studies Series F 004. Delhi: Inter India Publications.

Roy, Sarat Chandra. 1970 [1912]. *The Mundas and their country.* London: Asia Publishing House.

Rowland, Jo. 1995. Empowerment examined. *Development in Practice* **5:2**, 101-97.

Said, Edward. 1978. *Orientalism.* Harmondsworth: Penguin.

_____ 1994. *Culture and imperialism.* London: Vintage.

Sainath, P. 1996. *Everybody loves a good drought. Studies from India's poorest Districts.* Delhi: Penguin Books India.

Sálim, Ali & S. Dillon Ripley. 1969. *Handbook of the birds in India and Pakistan.* Vol. 3. Bombay: OUP.

Salmond, Anne. 1982. Theoretical landscapes. On cross-cultural conceptions of knowledge. In *Semantic anthropology.* (ed.) David Parkin. A.S.A. Monographs 22. London: Academic Press (65-87).

Sapir, David. 1977. The anatomy of metaphor. In *The Social use of Metaphor. Essays on the Anthropology of Rhetoric.* (eds) David J. Sapir & J. Christopher Crocker. University of Pennsylvania Press (3-32).

Satapatha Brahmana. 1964. In *The Catapatha-Brahmana.* (ed.) Albert Weber. Varanasi: Chaukhamba Samskrta Sirija Suphisa.

Saxena, H.O. & M. Brahmam, 1989. *The flora of Simlipahar, Orissa. With particular reference to the potential economic plants*. Bhubaneswar: Regional Research Laboratory.

Saxena, H.O. & P.K. Dutta. 1975. Studies on the Ethnobotany of Orissa. *Bull. Botanical Survey of India* **17:1-4**, 124-131.

Saxena N.C. 1991. *Forest policy in India: a critique and an alternative framework. Wasteland News* August-October, 28-32.

_____ 1995. *Forests, people and profit. New equations for sustainability*. Dehra Dunn: Natraj Publishers.

_____ 1996. Policy issues in forestry. In *Environment and development*. (ed.) M.S. Rathore. Jaipur: Rawat Publications.

Schama, Simon. 1995. *Landscape and memory*. London: Fontana Press.

Schumacher, E.F. 1973. *Small is beautiful. A study of economics as if people mattered*. London: Blond & Brigges.

Schutz, A. 1951. Making music together: a study of social relationship. *Social Research* **18:1**, 76-97.

Scoones, I. & J. Thompson. 1993. Challenging the populist perspective: Rural People's knowledge, agricultural research, and extension practice. *Discussion Paper 332*. Institute of Development Studies. Brighton: Univ. of Sussex.

Scoones, I., J. Thompson & Richard Chambers (eds) 1994. *Beyond Farmer first: rural people's knowledge, agricultural research and extension practice*. London: Intermediate Technology.

Scott, James C. 1985. *Weapons of the weak: Everyday Forms of peasant Resistance*. New Haven: Yale Univ. Press.

Senapati, Nilamani & Nabin Kumar Sahu. 1967. *Orissa District Gazetteers. Mayurbhanj*. Cuttack: Orissa Government Press.

Sharma, P.P. (a senior IAS officer in Patna, although privately) & Gautam Mukherji. 1999. Draft. (on Jharkhand).

Shiva, Vandana. 1989. *Staying alive. Women, ecology and development*. London: Zed.

_____ 1992. Women's indigenous knowledge and biodiversity conservation. In *Indigenous Vision. Peoples of India. Attitudes to the Environment*. (ed.) Geeti Sen. Delhi: India International Centre, Sage (205-14).

_____ *et al*. 1991. *Biodiversity: social and ecological perspectives*. London: Zed Penang.

Sillitoe, Paul. 1998. The development of indigenous knowledge. A new applied anthropology. *Curr. Anthrop.* **39:2**, 223-252.

Singh, K.S. 1982. Tribal autonomy movements in Chotanagpur. Singh, K.S: Tribal movements in India. Vol. 2. Delhi: Manohar (1-29).

Singh, K.S. 1994. *The Scheduled Tribes. People of India*. National Series Volume III. Anthropological Survey of India. Delhi: OUP.

Singh, Raajen. 1996. The adivasis in Jharkhand and Northeast India. In *Indigenous peoples of Asia. Many peoples, one struggle*. (eds) Nicolas Colin & Raajen Singh. Bangkok: Asia Indigenous peoples pact (81-95).

Singh, Rajendra & Dinesh Kumat Mishra (eds) 1996. *Development and environmental change in India*. Delhi: APH Publishing Corp.

Schutz, A. 1951. Making music together: a study of social relationship. *Social Research* **18:1**, 76-97.

Sivaramakrishnan, Krishna. 1995. Colonialism and forestry in India: Imagining the past in present societies. *Comp. Stud. Soc. & Hist.* **37:1**, 3-40.

_____ 1998. Modern forestry: trees and development spaces in South-west Bengal, India. In *The social life of trees. Anthropological perspectives on tree symbolism*. (ed.) Laura Rival. Oxford: Berg (273-96).

_____ 1891. *The tribes and castes of Bengal*. Calcutta.

Skrefrud, L.O. 1873. *Introduction to the Grammar of the Santali Language*. Benares.

_____ 1942 [1887]. *Horkoren Mare Hapramke Reak Katha or Traditions and Institutions of the Santals*. Transl. by Bodding, P.O. OS/O Ethnografiske Maseum Bulletin 6, OS/O 1942.

Soper, Kate. 1995. *What is Nature? Culture, Politics and the non-Human*. Oxford: Blackwell.

Spivak, Gayatri Chakravorty. 1988. Subaltern studies: deconstructing historiography. In *Selected Subaltern Studies*. (eds) R. Guha & G.C. Spivak. New York: OUP (3-34).

Stebbing, E.P. 1922-27. *The Forests of India*. Vols. I, II, III. London: John Lane.

Spradley, James P. 1980. *The Ethnographic Interview*. New York: Holt, Rinehart and Winston.

Stoler, Ann. 1986. Plantation politics and protest on Sumatra's East Coast. *Journal of Peasant Studies* **13:2** (124-43).

Strathern, Marilyn. 1988. *The gender of the gift: problems with women and problems with society in Melanesia.* Berkeley: Univ. of California Press.

Summerton Oswald, S.J. 1988. *Transactional analysis. Basic concepts plus*. Bombay: Oyster Park.

Swain, Debabrata. 1997. Participatory Biodiversity Management in Mayurbhanj. *Wasteland News* **12:4**, 42-3.

Tagore, Rabindranath. 1987 [1915]. *The home and the world*. Harmondsworth: Penguin.

Tambiah, Stanley Jeyraja. 1969. Animals are good to think and good to prohibit. *Ethnology* **8**, 423-459.

_____ 1985. *Culture, Thought, and Social Action. An anthropological perspective*. Cambridge: Harvard Univ. Press.

_____ 1990. *Magic, Science, Religion, and the Scope of Rationality*. Cambridge: Univ. Press.

Thomas, Keith. 1983. *Man and the natural world. Changing attitudes in England 1500-1800.* London: Penguin.

Thompson, E.P. 1977 [1975]. *Whigs and hunters. The origin of the black act*. London: Penguin Books.

Tribal medicine. 1993. (ed.) Marie D'Souza. Delhi: Society for Promotion of Wastelands Development.

Troisi, J. 1979 [1978]. *Tribal Religion: Religious beliefs and practices among the Santals*. Delhi: Manohar.

Turnbull, David. 1994. Local knowledge and competitive scientific traditions. *Knowledge and Policy* Fall/Winter 1993-94, **6:3-4**, 29-54.

Turner, Victor. 1967. *The forest of symbols. Aspects of Ndembu ritual*. London: Cornell Univ. Press.

Uchiyamada, Yashushi. 1998. 'The grove is out temple'. Contested representations of Kaavu in Kerala, South India. In *The social life of trees. Anthropological perspectives on tree symbolism.* (ed.) Laura Rival. Oxford: Berg (177-196).

Umans, L. 1993. Analysis and typology of indigenous forest management in the humid tropics of Asia. IKC- NBLF. National Reference Centre for Nature, Forests and Landscape of the Ministry of Agriculture, Nature management and Fisheries. Foundation for Netherlands Forestry Development Cooperation. Wageningen: Stichting BOS.

Upanisads. 1978. In *The Principal Upanisads. Rpt. of 1953 ed.* (ed. and translated). S. Radhakrishnan. London: George Allen & Unwin.

van Beek, Walter E.A. & Pieteke M. Banga. 1992. The Dogon and their trees. In *Bush base : forest farm. Culture, environment and development.* (eds) Elisabeth Croll & David Parkin. London: Routledge (57-75).

van den Breemer & P.M. Jan. 1992. Ideas and usage: Environment in Aouan society, Ivory Coast. In *Bush base : forest farm. Culture, environment and development.* (eds) Elisabeth Croll & David Parkin. London: Routledge (97-109).

Van Maanen, John. 1988. *Tales of the Field: on writing ethnography*. Chicago: Univ. Chicago Press.

Vayda, A.P. & R.A. Rappaport. 1968. Ecology: cultural and non-cultural. In *Introduction to Cultural Anthropology*. (ed.) J. Clifton. Boston: Houghton Mifflin.

Verma, R.C. 1995 [1990]. Indian tribes through the ages. GOI: Ministry of Information and broadcasting.

Voelcker, J.A. 1893. *Report on the Improvement of Indian Agriculture*. Calcutta: Government Press.

Vries, Pieter de. 1992. A research journey: on actors, concepts and the text. In *Battlefields of knowledge. The interlocking of theory and practice in social research and development.* (eds) Norman Long & Ann Long. London: Routledge, (47-84).

Wacquant, Loïc J.D. 1992. Towards a social Praxeology: the structure and logic of Bourdieu's sociology. In *An Invitation to Reflexive Sociology*. (eds) J.D. Loïc Wacquant & Pierre Bourdieu. Oxford: Polity (1-59).

Wallace, Anthony. 1956. Revitalization movements. *American Anthropologist* **58:2** (264-81).

Warren, Michael D. 1998. Comment on Sillitoe. *Curr. Anthrop.* **39:2**, 244-45.

Warren, Michael D., L.J. Slikkerveer & S. O. Titilola (eds) 1989. *Indigenous knowledge systems: implications for agriculture and international development*. Ames: Iowa State Univ.

Warren, Michael D, L. Jan Slikkerveer, David Brokensha (eds) 1995. *The cultural dimension of development. Indigenous knowledge systems*. London: Intermediate Technology Publications.

Winch, Peter. 1977. Understanding a Primitive Society. In *Rationality*. (ed.) Bryan R. Wilson. Oxford:Basil Blackwell.

Whistler, Hugh & Norman B. Kinnear. 1949. *Popular handbook of Indian Birds*. London: Gurney & Jackson.

White, Christine Pelzer. 1986. Everyday resistance, socialist revolution and rural development: the Vietnamese Case. *Journal of Peasant Studies* **13:2** (49-63).

Willis, R.G. 1990. *Signifying Animals: Human Meaning in the Natural World*. One World Archaeology, 16. London: Unwin Hyman.

Wolf, Eric. 1982. *Europe and the people without history*. Berkeley: Univ. of California Press.

Worsley, Peter. 1997. *Knowledges. What different peoples make of the world*. London: Profile Books.

Årheim, Kaj. 1996. The cosmic food web. Human-nature relatedness in the Northeast Amazon. In *Nature and society. Anthropological perspectives*. (eds) Philippe Descola & Gísli Pálsson. European association of social anthropology. London: Routledge (184-204).

Zimmermann, Francis. 1982. *La jungle et le fumet des viandes: an thème écologique dans la médicine hindoue*. Paris: Gallimard.

Stoler, Ann. 1986. Plantation politics and protest on Sumatra's East Coast. *Journal of Peasant Studies* **13:2** (124-43).

Strathern, Marilyn. 1988. *The gender of the gift: problems with women and problems with society in Melanesia.* Berkeley: Univ. of California Press.

Summerton Oswald, S.J. 1988. *Transactional analysis. Basic concepts plus*. Bombay: Oyster Park.

Swain, Debabrata. 1997. Participatory Biodiversity Management in Mayurbhanj. *Wasteland News* **12:4**, 42-3.

Tagore, Rabindranath. 1987 [1915]. *The home and the world*. Harmondsworth: Penguin.

Tambiah, Stanley Jeyraja. 1969. Animals are good to think and good to prohibit. *Ethnology* **8**, 423-459.

_____ 1985. *Culture, Thought, and Social Action. An anthropological perspective*. Cambridge: Harvard Univ. Press.

_____ 1990. *Magic, Science, Religion, and the Scope of Rationality*. Cambridge: Univ. Press.

Thomas, Keith. 1983. *Man and the natural world. Changing attitudes in England 1500-1800.* London: Penguin.

Thompson, E.P. 1977 [1975]. *Whigs and hunters. The origin of the black act*. London: Penguin Books.

Tribal medicine. 1993. (ed.) Marie D'Souza. Delhi: Society for Promotion of Wastelands Development.

Troisi, J. 1979 [1978]. *Tribal Religion: Religious beliefs and practices among the Santals*. Delhi: Manohar.

Turnbull, David. 1994. Local knowledge and competitive scientific traditions. *Knowledge and Policy* Fall/Winter 1993-94, **6:3-4**, 29-54.

Turner, Victor. 1967. *The forest of symbols. Aspects of Ndembu ritual*. London: Cornell Univ. Press.

Uchiyamada, Yashushi. 1998. 'The grove is out temple'. Contested representations of Kaavu in Kerala, South India. In *The social life of trees. Anthropological perspectives on tree symbolism.* (ed.) Laura Rival. Oxford: Berg (177-196).

Umans, L. 1993. Analysis and typology of indigenous forest management in the humid tropics of Asia. IKC- NBLF. National Reference Centre for Nature, Forests and Landscape of the Ministry of Agriculture, Nature management and Fisheries. Foundation for Netherlands Forestry Development Cooperation. Wageningen: Stichting BOS.

Upanisads. 1978. In *The Principal Upanisads. Rpt. of 1953 ed.* (ed. and translated). S. Radhakrishnan. London: George Allen & Unwin.

van Beek, Walter E.A. & Pieteke M. Banga. 1992. The Dogon and their trees. In *Bush base : forest farm. Culture, environment and development.* (eds) Elisabeth Croll & David Parkin. London: Routledge (57-75).

van den Breemer & P.M. Jan. 1992. Ideas and usage: Environment in Aouan society, Ivory Coast. In *Bush base : forest farm. Culture, environment and development.* (eds) Elisabeth Croll & David Parkin. London: Routledge (97-109).

Van Maanen, John. 1988. *Tales of the Field: on writing ethnography*. Chicago: Univ. Chicago Press.

Vayda, A.P. & R.A. Rappaport. 1968. Ecology: cultural and non-cultural. In *Introduction to Cultural Anthropology*. (ed.) J. Clifton. Boston: Houghton Mifflin.

Verma, R.C. 1995 [1990]. Indian tribes through the ages. GOI: Ministry of Information and broadcasting.

Voelcker, J.A. 1893. *Report on the Improvement of Indian Agriculture*. Calcutta: Government Press.

Vries, Pieter de. 1992. A research journey: on actors, concepts and the text. In *Battlefields of knowledge. The interlocking of theory and practice in social research and development.* (eds) Norman Long & Ann Long. London: Routledge, (47-84).

Wacquant, Loïc J.D. 1992. Towards a social Praxeology: the structure and logic of Bourdieu's sociology. In *An Invitation to Reflexive Sociology*. (eds) J.D. Loïc Wacquant & Pierre Bourdieu. Oxford: Polity (1-59).

Wallace, Anthony. 1956. Revitalization movements. *American Anthropologist* **58:2** (264-81).

Warren, Michael D. 1998. Comment on Sillitoe. *Curr. Anthrop.* **39:2**, 244-45.

Warren, Michael D., L.J. Slikkerveer & S. O. Titilola (eds) 1989. *Indigenous knowledge systems: implications for agriculture and international development*. Ames: Iowa State Univ.